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FIFTEENTH ANNUAL REPORT

—OF THE—

ILLINOIS

State Bee-Keepers' Association

Organized February 26, 1891, at
Springfield, Illinois

COMPILED BY
JAMES A. STONE, SECRETARY,
R. R. 4, Springfield, Ill.

SPRINGFIELD, ILL.:
Illinois State Register Print
1916

ILLINOIS STATE CAPITOL BUILDING AT SPRINGFIELD.

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Letter of Transmittal

OFFICE OF THE SECRETARY,
R. R. 4, SPRINGFIELD, ILL., March 1, 1916.

To His Excellency Edward F. Dunne, Governor of the State of Illinois:

SIR: I have the honor to transmit herewith the Fifteenth Anuual Report of the Illinois State Bee-Keepers' Association.

Respectfully submitted,

JAMES A. STONE, *Secretary.*

411148

FATHER LANGSTROTH,
Inventor of the Movable Frame Hive.

OFFICERS

—OF THE—

Illinois State Bee-Keepers' Association

FOR 1916

EMIL J. BAXTER, - - - - - - - - - - President

Nauvoo, Ill.

A. L. KILDOW, - - - - - - - - - - - Putnam

State Foul Brood Inspector.

Vice-Presidents.

1st—AARON COPPIN, - - - - - - - - - - Wenona

2d—DR. A. C. BAXTER, - - - - - - - - - Springfield

3d—A. L. KILDOW, - - - - - - - - - - Putnam

4th—J. W. BOWEN, - - - - - - - - - - Jacksonville

5th—KENNITH HAWKINS, - - - - - - - - Plainfield

JAMES A. STONE, - - - - - - - - - - Secretary

CHAS. BECKER, - - - - - - - - - - - Treasurer

Pleasant Plains.

List of members will appear in back of Report. Also Statistical Report.

Formation of the Illinois State Bee-Keepers' Association.

Springfield, Ill., Feb. 26, 1891.

The Capitol Bee-Keepers' Association was called to order by President P. J. England.

Previous notice having been given that an effort would be made to form a State Association, and there being present bee-keepers from different parts of the State, by motion, a recess was taken in order to form such an Association.

P. J. England was chosen temporary chairman and C. E. Yocum temporary secretary. On motion, the Chair appointed Thos. G. Newman, C. P. Dadant and Hon. J. M. Hambaugh a committee on constitution.

Col. Chas. F. Mills addressed the meeting on the needs of a State Association, and stated that it was his opinion that the bee-keepers should have a liberal appropriation for a State Apiarian Exhibit at the World's Columbian Exposition.

A motion to adjourn till 1:30 p. m. prevailed.

AFTERNOON SESSION.

The Committee on Constitution reported a form for same, which, on motion, was read by the Secretary, by sections serially.

Geo. F. Robbins moved to substitute the word "shall" for "may" in the last clause of Section 1, Article III. This led to a very animated discussion, and the motion was lost.

J. A. Stone moved to amend the above-named section by striking out the word "ladies" and all that followed of the same section, which motion led to further discussion, and motion finally prevailed.

Section 2, Article II., relating to a quorum, was, on motion, entirely stricken out.

Mr. Robbins moved to amend Article V. by adding the words "Thirty days' notice having been given to each member." Prevailed.

Thos. G. Newman moved to adopt the Constitution, so amended, as a whole. Which motion prevailed.

See Constitution.

J. A. Stone moved that the Chair appoint a nominating committee of three on permanent organization. Prevailed.

Chair appointed as such committee, Col. Chas. F. Mills, Hon. J. M. Hambaugh, and C. P. Dadant.

Committee retired and in a few minutes returned, submitting the following named persons as candidates for their respective offices:

For President—P. J. England, Fancy Prairie.

For Vice Presidents—Mrs. L. Harrison, Peoria; C. P. Dadant, Hamilton; W. T. F. Petty, Pittsfield; Hon. J. M. Hambaugh, Spring; Dr. C. C. Miller, Marengo.

Secretary—Jas. A. Stone, Bradfordton.

Treasurer—A. N. Draper, Upper Alton.

Mr. Black moved the adoption of the report of the committee on nominations. The motion prevailed, and the officers as named by the committee were declared elected for the ensuing year.

Hon. J. M. Hambaugh moved that Mr. Thos. G. Newman, editor American Bee Journal, of Chicago, be made the first honorary member of the Association. Prevailed.

At this point Col. Chas. F. Mills said: "Mr. Chairman, I want to be the first one to pay my dollar for membership," at the same time suiting his action to his words, and others followed his example, as follows:

CHARTER MEMBERS.

Col. Chas. F. Mills, Springfield.
Hon. J. M. Hambaugh, Spring.
Hon. J. S. Lyman, Farmingdale.
C. P. Dadant, Hamilton.
Chas. Dadant, Hamilton.
A. N. Draper, Upper Alton.
S. N. Black, Clayton.
Aaron Coppin, Wenona.
Geo. F. Robbins, Mechanicsburg.
J. W. Yocum, Williamsville.
Thos. S. Wallace, Clayton.
A. J. England, Fancy Prairie.
P. J. England, Fancy Prairie.
C. E. Yocom, Sherman.
Jas. A. Stone, Bradfordton.

FIRST HONORARY MEMBER.

Thos. G. Newman, editor American Bee Journal, Chicago.

State of Illinois—Department of State

ISAAC N. PEARSON, Secretary of State.

To all to whom these Presents shall come—GREETING:

Whereas, A certificate duly signed and acknowledged having been filed in the office of the Secretary of State on the 27th day of February, A. D. 1891, for the organization of the Illinois State Bee-keepers' Association, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereunto attached.

Now, Therefore, I, Isaac N. Pearson, Secretary of State, of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said, The Illinois State Bee-Keepers' Association, is a legally organized corporation under the laws of the State.

In Testimony Whereof, I hereunto set my hand and cause to be affixed the great seal of State.

Done at the City of Springfield, this 27th day of February, in the [Seal] year of our Lord one thousand eight hundred and ninety one, and the Independence of the United States the one hundred and fifteenth.

I. N. PEARSON,
Secretary of State.

STATE OF ILLINOIS, } ss.
County of Sangamon. }

To Isaac N. Pearson, Secretary of State:

We, the undersigned, Perry J. England, Jas. A. Stone and Albert N. Draper, citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and for the purposes of such organizations, we hereby state as follows, to-wit:

1. The name of such corporation is, The Illinois State Bee-Keepers' Association.

2. The object for which it is formed is, to promote the general interests of the pursuit of bee-culture.

3. The management of the aforesaid Association shall be vested in a board of three Directors, who are to be elected annually.

4. The following persons are hereby selected as the Directors, to control and manage said corporation for the first year of its corporate existence, viz.: Perry J. England, Jas. A. Stone, and Albert N. Draper.

5. The location is in Springfield, in the County of Sangamon, State of Illinois. (Signed.)

Perry J. England,
Jas. A. Stone,
Albert N. Draper.

STATE OF ILLINOIS, } ss.
Sangamon County. }

I, S. Mendenhall, a notary public in and for the County and State aforesaid, do hereby certify that on this 26th day of February, A. D. 1891, personally appeared before me, Perry J. England, James A. Stone and Albert N. Draper, to me personally known to be the same persons who executed the foregoing certificate, and severally acknowledged that they had executed the same for the purposes therein set forth.

In witness whereof, I have hereunto set my hand and seal the day and year above written.

S. Mendenhall,
[Seal] Notary Public.

CONSTITUTION AND BY-LAWS

—OF THE—

Illinois State Bee-Keepers' Association

CONSTITUTION

Adopted Feb. 26, 1891.

ARTICLE I.—Name.

This organization shall be known as The Illinois State Bee-Keepers' Association, and its principal place of business shall be at Springfield, Ill.

ARTICLE II.—Object.

Its object shall be to promote the general interests of the pursuit of bee-culture.

ARTICLE III.—Membership.

Section 1. Any person interested in Apiculture may become a member upon the payment to the Secretary of an annual fee of one dollar ($1.00). (Amendment adopted at annual meeting, November, 1905): And any affiliating Association, as a body, may become members on the payment of an aggregate fee of fifty cents (50c) per member, as amended Nov., 1910.

Sec. 2. Any persons may become honorary members by receiving a majority vote at any regular meeting.

ARTICLE IV.—Officers.

Section 1. The officers of this Association shall be, President, Vice-President, Secretary and Treasurer. Their terms of office shall be for one year, or until their successors are elected and qualified.

Sec. 2. The President, Secretary and Treasurer shall constitute the Executive Committee.

Sec. 3. Vacancies in office — by death, resignation and otherwise— shall be filled by the Executive Committee until the next annual meeting.

ARTICLE V.—Amendments.

This Constitution shall be amended at any annual meeting by a two-thirds vote of all the members present— thirty days' notice having been given to each member of the Association.

BY-LAWS

ARTICLE I.

The officers of the Association shall be elected by ballot and by a majority vote.

ARTICLE II.

It shall be the duty of the President to call and preserve order at all meetings of this Association; to call for all reports of officers and committees; to put to vote all motions regularly seconded; to count the vote at all elections, and declare the results; to decide upon all questions of order, and to deliver an address at each annual meeting.

ARTICLE III.

The Vice-Presidents shall be numbered, respectively, First, Second, Third. Fourth and Fifth, and it shall be

the duty of one of them, in his respective order, to preside in the absence of the President.

ARTICLE IV.

Section 1. It shall be the duty of the Secretary to report all proceedings of the Association, and to record the same, when approved, in the Secretary's book; to conduct all correspondence of the Association, and to file and preserve all papers belonging to the same; to receive the annual dues and pay them over to the Treasurer, taking his receipt for the same; to take and record the name and address of every member of the Association; to cause the Constitution and By-Laws to be printed in appropriate form, and in such quantities as may be directed by the Executive Committee from time to time, and see that each member is provided with a copy thereof; to make out and publish annually, as far as practicable, statistical table showing the number of colonies owned in the spring and fall, and the amount of honey and wax produced by each member, together with such other information as may be deemed important, or be directed by the Executive Committee; and to give notice of all meetings of the Association in the leading papers of the State, and in the bee journals at least four weeks prior to the time of such meeting.

Sec. 2. The Secretary shall be allowed a reasonable compensation for his services, and to appoint an assistant Secretary if deemed necessary.

ARTICLE V.

It shall be the duty of the Treasurer to take charge of all funds of the Association, and to pay them out upon the order of the Executive Committee, taking a receipt for the same; and to render a report of all receipts and expenditures at each annual meeting.

ARTICLE VI.

It shall be the duty of the Executive Committee to select subjects for discussion and appoint members to deliver addresses or read essays, and to transact all interim business.

ARTICLE VII.

The meeting of the Association shall be, as far as practicable, governed by the following order of business:

Call to order.
Reading minutes of last meeting.
President's address.
Secretary's report.
Treasurer's report.
Reports of committees.
Unfinished business.
Reception of members and collection.
Miscellaneous business.
Election and installation of officers.
Discussion.
Adjournment.

ARTICLE VIII

These By-Laws may be amended by a two-thirds vote of all the members present at any annual meeting.

C. E. Yocom,
Aaron Coppin,
Geo. F. Robbins

Following is a copy of the law passed by the Illinois Legislature May 19th, and signed by the Governor June 7th, 1911, to take effect July 1st, 1911:

State Foul Brood Law

State Inspector of Apiaries

Preamble.
§ 1. State Inspector of Apiaries—appointment—term—assistants—per diem.
§ 2. Foul Brood, Etc.—what declared nuisances—inspection—notice to owner or occupant—treatment—abatement of nuisance—appeal.
§ 3. Annual Report.
§ 4. Penalties.

HOUSE BILL No. 670.

(Approved June 7, 1911.)

An Act to prevent the introduction and spread in Illinois of foul brood among bees, providing for the appointment of a State Inspector of Apiaries and prescribing his powers and duties.

Whereas, the disease known as foul brood exists to a very considerable extent in various portions of this State, which, if left to itself, will soon exterminate the honey-bees; and

Whereas, the work done by an individual bee-keepeer or by a State inspector is useless so long as the official is not given authority to inspect and, if need be, to destroy the disease when found; and

Whereas, there is a great loss to the bee-keepers and fruit growers of the State each year by the devastating ravages of foul brood;

Section 1. **Be it enacted by the People of the State of Illinois, represented in the General Assembly:** That the Governor shall appoint a State inspector of Apiaries, who shall hold his office for the term of two years, and until his successor is appointed and qualified, and who may appoint one or more assistants, as needed, to carry on the inspection under his supervision. The Inspector of Apiaries shall receive for each day actually and necessarily spent in the performance of his duties the sum of Four Dollars to be paid upon bills of particulars certified to as correct by the said State Inspector of Apiaries, and approved by the Governor.

Sec. 2. It shall be the duty of every person maintaining or keeping any colony or colonies of bees to keep the same free from the disease known as foul brood and from every contagious and infectious disease among bees. All bee-hives, bee-fixtures or appurtenances where foul brood or other contagious or infectious diseases among bees exists, are hereby declared to be nuisances to be abated as hereinafter prescribed. If the inspector of apiaries shall have reason to believe that any apiary is infected by foul brood or other contagious disease, he shall have power to inspect, or cause to be inspected, from time to time, such apiary, and for the purpose of such inspection he, or his assistants, are authorized during reasonable business hours to enter into or upon any farm or premises, or other building or place used for the purpose of propagating or nurturing bees. If said inspector of apiaries, or his assistants, shall find by inspection that any person, firm or corporation is maintaining a nuisance as described in this section, he shall notify in writing the owner or occupant of the premises containing the nuisance so disclosed of the fact that such nuisance exists. He shall include in such notice a statement of the conditions constituting such nuisance, and order that

the same be abated within a specified time and a direction, written or printed, pointing out the methods which shall be taken to abate the same. Such notice and order may be served personally or by depositing the same in the post office properly stamped, addressed to the owner or occupant of the land or premises upon which such nuisance exists, and the direction for treatment may consist of a printed circular, bulletin or report of the Inspector of Apiaries, or an extract from same.

If the person so notified shall refuse or fail to abate said nuisance in the manner and in the time prescribed in said notice, the Inspector of Apiaries may cause such nuisance to be abated, and he shall certify to the owner or person in charge of the premises the cost of the abatement and if not paid to him within sixty days thereafter the same may be recovered, together with the costs of action, before any court in the State having competent jurisdiction.

In case notice and order served as aforesaid shall direct that any bees, hives, bee-fixtures or appurtenances shall be destroyed and the owner of such bees, hives, bee-fixtures or appurtenances shall consider himself aggrieved by said order, he shall have the privilege of appealing within three days of the receipt of the notice to the county court of the county in which such property is situated. The appeal shall be made in like manner as appeals are taken to the county court from judgments of justices of the peace. Written notice of said appeal served by mail upon the Inspector of Apiaries shall operate to stay all proceedings until the decision of the county court, which may, after investigating the matter, reverse, modify or affirm the order of the Inspector of Apiaries. Such decision shall then become the order of the Inspector of Apiaries, who shall serve the same as hereinbefore set forth and shall fix a time within which such decision must be carried out.

Sec. 3. The Inspector of Apiaries shall, on or before the second Monday in December of each calendar year, make a report to the Governor and also to the Illinois State Bee Keepers' Association, stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed and the expense incurred in the performance of his duties.

Sec. 4. Any owner of a diseased apiary or appliances taken therefrom, who shall sell, barter or give away any such apiary, appliance, queens or bees from such apiary, expose other bees to the danger of contracting such disease, or refuse to allow the Inspector of Apiaries to inspect such apiary, or appliances, shall be fined not less than $50.00 nor more than $100.00.

Approved June 7, 1911.

(Bill passed in the 49th General Assembly.)

Bee-Keepers' Association.

§ 1. Appropriates $1,000 per annum—proviso.
§ 2. How drawn.
§ 3. Annual Repoort.

An Act making an appropriation for the Illinois State Bee-Keepers' Association.

Whereas, The members of the Illinois State Bee-Keepers' Association have for years given much time and labor without compensation in the endeavor to promote the interests of the bee-keepers of the State; and,

Whereas, The importance of the industry to the farmers and fruit-growers of the State warrants the expenditure of a reasonable sum for the holding of annual meetings, the publication of reports and papers containing practical information concerning bee-keeping, therefore, to sustain the same and enable this organization to defray the expenses of annual meetings, publishing reports, suppressing foul brood among bees in the State, and promote the industry in Illinois;

Section 1. Be it enacted by the People of the State of Illinois represented in the General Assembly: That there be and is hereby appropriated for the use of the Illinois State Bee-Keepers' Association the sum of one thousand dollars ($1,000) per annum for the years 1915 and 1916. For the purpose of advancing the growth and developing the interests of the bee-keepers of Illinois, said sum to be expended under the direction of the Illinois State Bee-Keepers' Association for the purpose of paying the expenses of holding annual meetings, publishing the proceedings of said metings, suppressing foul brood among bees in Illinois, etc.

Provided, however, That no officer or officers of the Illinois State Bee-Keepers' Association shall be entitled to receive any money compensation whatever for any services rendered for the same, out of this fund.

Sec. 2. That on the order of the President, countersigned by the Secretary of the Illinois State Bee-Keepers' Association, and approved by the Governor, the Auditor of Public Accounts shall draw his warrant on the Treasurer of the State of Illinois in favor of the treasurer of the Illinois State Bee-Keepers' Association for the sum herein appropriated.

Sec. 3. It shall be the duty of the treasurer of the Illinois State Bee-Keepers' Association to pay out of said appropriation, on itemized and receipted vouchers, such sums as may be authorized by vote of said organization on the order of the president, countersigned by the secretary, and make annual report to the Governor of all such expenditures, as provided by law.

Code of Rules and Standards for Grading Apiarian Exhibits at Fair as Adopted by Illinois State Bee-Keepers' Association.

COMB HONEY.

Rule 1. Comb honey shall be marked on a scale of 100, as follows:

Quantity	40
Quality	40
Style of display	20

Rule 2. Points of quality should be:

Variety	5
Clearness of capping	10
Completeness of capping	5
Completeness of filling	5
Straightness of comb	5
Uniformity	5
Style of section	5

Remarks: 1. By variety is meant different kinds, with regard to the sources from which the honey is gathered, which adds much interest to an exhibit.

2. By clearness of capping is meant freedom from travel stain and a water soaked appearance. This point is marked a little high, because it is a most important one. There is no better test of the quality of comb honey than the appearance of the cappings. If honey is taken off at the proper time, and cared for as it should be. so as to preserve its original clear color, body and flavor will take care of themselves, for excellence in the last two points always accompanies excellence in the first. Clover and basswood honey shoud be white; heartsease, a dull white tinged with yellow; and Spanish needle, a bright yellow.

3. By uniformity is meant closeness of resemblance in the sections composing the exhibit.

4. By style is meant neatness of the sections, freedom from propolis, etc.

5. Honey so arranged as to show every section should score the highest in style of display, and everything that may add to the tastiness and attractivness of an exhibit should be considered.

EXTRACTED HONEY.

Rule 1. Extracted honey should be marked on a scale of 100, as follows:

Quantity	40
Quality	45
Style of display	15

Rule 2. The points of quality should be:

Variety	10
Clearness of color	5
Body	5
Flavor	5
Style of package	10
Variety of package	5
Finish	5

Remarks: 1. Light clover honey pouring out of a vessel is a very light straw color; Spanish needle, a golden hue, and dark clover honey, a dull amber.

2. Style of package is rated a little high, not only because in that consists the principal beauty of an exhibit of extracted honey, but also because it involves the best package for marketing. We want to show honey in the best shape for the retail trade, and that, in this case, means the most attractive style for exhibition. Glass packages should be given the preference over tin; flint glass over green, and smaller vessels over larger, provided the latter run over one or two pounds.

3. By variety of package is meant chiefly different sizes; but small pails for retailing, and, in addition, cans or kegs (not too large) for wholesaling, may be considered. In the former case, pails painted in assorted colors, and lettered "Pure Honey," should be given the preference.

4. By finish is meant capping, labeling, etc.

5. Less depends upon the manner of arranging an exhibit of extracted than of comb honey, and for that reason, as well as to give a higher number of points to style of package, a smaller scale is allowed for style of display.

SAMPLES OF COMB AND EXTRACTED HONEY.

Rule 1. Single cases of comb honey, entered as such for separate premiums, should be judged by substantially the same rules as those given for a display of comb honey, and samples of extracted, by those governing displays of extracted honey.

Rule 2. Samples of comb or extracted honey, as above, may be considered as part of the general display in their respective departments.

GRANULATED HONEY.

Rule 1. Candied or granulated honey should be judged by the rules for extracted honey, except as below.

Rule 2. The points of quality should be:

Variety	10
Fineness of grain	5
Color	5
Flavor	5
Style of package	10
Variety of package	5
Finish	5

Rule 3. An exhibit of granulated honey may be entered or considered as part of a display of extracted honey.

NUCLEI OF BEES.

Rule. Bees in observation hives should be maked on a scale of 100, as follows:

Color and markings	30
Size of bees	30
Brood	10
Queen	10
Quietness	5
Style of comb	5
Style of hive	10

Remarks: 1. Bees should be exhibited only in the form of single frame nuclei, in hives or cages with glass sides.

2. Italian bees should show three or more bands, ranging from leather color to golden or light yellow.

3. The markings of other races should be those claimed for those races in their purity.

4. A nucleus from which the queen is omitted should score zero on that point.

5. The largest quantity of brood in all stages or nearest to that should score the highest in that respect.

6. The straightest, smoothest and most complete comb, with the most honey consistent with the most brood, should score the highest in that respect.

7. That hive which is neatest and best made and shows the bees, etc., to the best advantage should score the highest.

QUEEN BEES.

Rule. Queen bees in cages should be marked on a scale of 100, as follows:

Quantity	40
Quality and variety	40
Style of caging and display	20

Remarks: 1. The best in quality consistent with variety should score the highest. A preponderence of Italian queens should overweigh a preponderance of black ones, or, perhaps, of any other race or strain; but sample queens of any or all varieties should be duly considered. Under the head of quality should also be considered the attendant bees. There should be about a dozen with each queen.

2. Neatness and finish of cages should receive due consideration, but the principal points in style are to make and arrange the cages so as to show the inmates to the best advantage.

BEESWAX.

Rule. Beeswax should be marked on a scale of 100, as follows:

Quantity	40
Quality	40
Style of display	20

Remarks: 1. Pale, clear, yellow specimens should score the highest, and the darker grades should come next in order.

2. By style is meant chiefly the forms in which the wax is molded and put up for exhibition. Thin cakes or small pieces are more desirable in the retail trade than larger ones. Some attention may be given to novelty and variety.

Foul Brood and Other Diseases of Bees.

Foul brood—bacillus alvei—is a fatal and contagious disease among bees, dreaded most of all by bee-keepers. The germs of disease are either given to the young larval bee in its food when it hatches from the egg of the queen-bee, or it may be contagion from a diseased colony, or if the queen deposits eggs, or the worker-bees store honey or pollen in such combs. If in any one of the above cases, the disease will soon appear, and the germs increase with great rapidity, going from one little cell to another, colony to colony of bees, and then to all the neighboring apiaries, thus soon leaving whole apiaries with only diseased combs to inoculate others. The Island of Syria in three years lost all of its great apiaries from foul brood. Dzierzon, in 1868, lost his entire apiary of 500 colonies. Cowan, the editor of the British Bee Journal, recently wrote: "The only visible hindrance to the rapid expansion of the bee industry is the prevalence of foul brood, which is so rapidly spreading over the country as to make bee-keeping a hazardous occupation."

Canada's foul brood inspector, in 1890 to 1892, reported 2,395 cases, and in a later report for 1893 to 1898, that 40 per cent of the colonies inspected were diseased. Cuba is one of the greatest honey-producing countries, and was lately reported to me by a Wisconsin bee-keeper who has been there, and will soon return to Wisconsin: "So plentiful is foul brood in Cuba that I have known whole apiaries to dwindle out of existence from its ravages, and hundreds more are on the same road to sure and certain death. I, myself, took, in 90 days in Cuba, 24,000 pounds of fine honey from 100 colonies, but where is that apiary and my other 150-colony apiary? Dead from foul brood." Cuba, in 1901, exported 4,795,600 pounds of honey, and 1,022,897 pounds of beeswax.

Cuba at present has laws to suppress foul brood, and her inspector is doing all possible to stamp the same from the island.

Even in Wisconsin I know of several quite large piles of empty hives, where also many other apiaries where said disease had gotten a strong foothold.

By the kindness of the Wisconsin bee-keepers, and, in most cases, by their willing assistance, I have, during the last five years, gotten several counties free of the disease, and at the present writing, March 12, 1902, have what there is in Wisconsin under control and quarantined. This dreadful disease is often imported into our State from other States and countries, so we may expect some new cases to develop until all the States shall enact such laws as will prevent further spread of the same. Arizona, New York (1899), California (1891), Nebraska (1895), Utah (1892), Colorado (1897), have county inspectors, and Wisconsin (1897), and Michigan (1901), have State inspectors. The present Wisconsin law, after five years of testing and rapid decrease of the disease, is considered the best, and many other States are now making efforts to secure a like law.

There are several experimental apiaries in Canada, under control of the Ontario Agricultural College; also a few in the United States, especially in Colorado, that have done great work for the bee-keeping industry, and their various published bulletins on the same are very valuable. The Wisconsin State Bee-Keepers' Association has asked that an experimental apiary might be had on the Wisconsin Experimental Farm, but at present there are so many departments asking for aid that I fear it may be some time before bee-culture will be taken up.

Causes of Foul Brood.

1. Many writers claim foul brood originates from chilled or dead brood. Dr. Howard, of Texas, one of the best

practical modern scientific experimenters, a man of authority, has proven beyond a doubt that chilled or common dead brood does not produce foul brood. I have, in the last five years, also proven his statement to be true in Wisconsin, but I do believe such conditions of dead brood are the most favorable places for lodgment and rapid growth of disease. Also, I do not believe foul brood germs are floating in the air, for, if they were, why would not every brood-comb cell of an infected hive become diseased? I believe that this disease spreads only as the adult bees come in contact with it, which is often through robber-bees. Brood-combs should not be removed from any colony on cold or windy days, nor should they be left for a moment in the direct rays of sunshine on hot days.

2. The foul brood may be caused by the need of proper food and temperature. Generally this disease does not appear to be serious during a honey-flow, but at the close of the honey season, or at time of scarcity, it is quite serious, and as the bees at such times will rob anywhere they can find stores, whether from healthy or diseased combs, it is the duty of every bee-keeper to keep everything carefully protected. Hive-entrances contracted, no old combs or any article with a drop of honey in where the bees can get to it. While honey is coming in from the various flowers, quite a portion is used direct as food for the larval bee, and with such no disease would be fed to the bees. Such fed bees, even in a diseased hive, will hatch, as is often the case. I never knew a case where a bee hatched from a brood cell that had ever had foul brood in. If the germs of disease are there in the dried scale attached to the lower side walls. bees will store honey therein; the queen will deposit eggs, or the cell may be filled with pollen, or beebread, as some call it. Said honey, or pollen, when it comes in contact with those germs of disease, or the food given to the young bee, if in the proper temperature, said germs of disease will grow and develop rapidly.

Causes of Contagion.

I fully believe that if the history of foul brood in Wisconsin were known, nearly every case could be traced to contagion from diseased combs, honey, or from home diseased queen-breeders' cages. There are some instances where I have traced the history of contagion in Wisconsin:

1. Diseased apiaries, also single colonies, sold either at auction or private sale. Several law suits have resulted in the settlement of some of the cases.

2. Brood-combs and various implements from diseased hives, used by other bee-keepers, and borrowed articles.

3. All the bees in an apiary dead from foul brood, and the hives having an abundance of honey in the brood-combs, said combs placed out by the side of hives, so that neighbor's bees might get the honey. From those combs I lined robber bees to seven other apiaries, and each time became diseased and were treated.

4. Robber bees working on empty honey packages in the back yards of grocery stores and baking factories. Said honey came from diseased apiaries, some located in far distant states, even Cuba.

5. Loaning of hives, combs, extractors, and even empty honey-packages.

6. Buying honey from strangers, or not knowing where it was produced, and feeding it to bees without boiling the honey.

7. Too common a practice of using old brood-combs from some apiary where the owner's bees have died from "bad luck," as he calls it.

8. Queen-bee—by buying queen bees from strangers and introducing them in the cages they came in. I have traced several new outbreaks of the disease to the hives where such queens were introduced, and the queens came from distant states. To be safe, on arrival of queen, put her carefully alone in a new and clean cage with good food in it. Keep her in there, warm and comfortable, for a few hours before introducing. The shipping cage and every bee that came with the queen should be put in the stove and burned. I do not think there is any danger from the queen so treated, even from diseased hives, but I do know of many cases where disease soon appear in the hives, where the shipping cage and bees were put in with the colony. The great danger is in the food in said cage being made from diseased honey. I was called to attend a State bee-keepers' meeting in another State, and I asked if any there had had experience with foul

brood. There was a goodly number of raised hands. Then I asked: "Do any of you think you got the disease by buying queen-bees?" Again several hands were raised. Even bee-keepers there had traced the disease in their apiaries to the buying of queens, and all from the same breeder. If you get queens from abroad, I hope you will do with them as I have described above. Better be on the safe side.

Experiments.

1. A prominent Wisconsin bee-keeper some years ago had foul brood among his bees so bad that he lost 200 colonies before the disease was checked. Having a honey-extractor and comb-foundation machine, he first boiled the hives in a large sorghum pan, then in a kettle all combs were melted after the honey was extracted; the honye was boiled and also the extractor and implements used. The bees were returned to their hives on comb-foundation he made from the wax made from the melted combs, then fed the boiled honey. Several years have passed, and there has been no sign of disease in his apiary since.

2. Foul-brood germs are not always killed when exposed to a temperature of 212 deg. F. (boiling point) for 45 minutes. uBt in every case where the combs are boiled in boiling water, and same were well stirred while boiling, no germs were alive.

3. Foul brood in brood-combs is not destroyed when exposed to the temperature of Wisconsin winters of 20 deg. below zero, and in one case I developed foul brood from combs that had been exposed to 28 deg. below zero.

4. Honey, if stored in diseased combs, acts as a preserving medium, and in such cases the germs of disease will remain so long as the comb is undisturbed. Four years at least.

5. Honey or beeswax, or the refuse from a solar or sunheat extractor, is not heated enough to kill foul-brood germs. Several cases of contagion where robber bees worked on solar extractor refuse or honey.

6. Comb-foundation made by supply manufacturers is free from live germs of disease and perfectly safe to use. To prove this experiment beyond a doubt, I took a quantity of badly diseased brood-combs from several apiaries and render each batch of combs into wax myself on the farm where found. Then on my own foundation mill I made some brood-foundation. I also took quite a quantity more of said wax, went to two wholesale comb-foundation manufacturers, and both parties willingly made my experimental wax into comb-foundation, just the same as they do every batch of wax, I then divided the various makes of foundation, and selected 20 of the best bee-yards in Wisconsin, where no disease has ever been known; had the same placed in 62 of their best colonies, and in every case no signs of disease have appeared. Those same colonies tontinue to be the best in the various apiaries.

Symptoms of Foul Brood.

1. The infected colony is not liable to be as industrious. Hive entrance with few guard bees to protect their home. Sometimes fine dirt or little bits of old comb and dead bees in and around the hive-entrance, and often robber bees seeking entrance.

2. Upon opening the hive, the brood in the combs is irregular, badly scattered, with many empty cells which need inspection.

3. The cappings over healthy brood are oval, smooth, and of a healthy color peculiar to honey-bee brood, but if diseased, the cappings are sunken, a little darker in color, and have ragged pin holes. The dead larval bee is o fa light color, and, as it is termed, ropy, so that if a toothpick is inserted and slowly withdrawn, this dead larva will draw out much like spittle or glue.

4. In this ropy stage there is more or less odor peculiar to the disease; it smells something like an old, stale gluepot. A colony may be quite badly affected and not omit much odor, only upon opening of the hive or close examination of the brood. I have treated a few cases where the foul brood odor was plainly noticed several rods from the apiary.

5. Dried Scales.—If the disease has reached the advanced stages, all the above described conditions will be easily seen and the dried scales as well. This foul matter is so tenacious that the bees cannot remove it, so it dries down on the lower side-wall of the cell, midway from the bottom to front end of the cell, seldom on the bottom of the cell. According to its stage of development, there will be either the shapeless mass of dark brown matter,

on the lower side of the cell, often with a wrinkled skin covering, as if a fine thread had been inserted in the skin legthwise and drawn enough to form rib-like streaks on either side. Later on it becomes hardened, nearly black in color, and in time dries down to be as thin as the side walls of the cell. Often there will be a small dried bunch at the front end of the cell, not larger than a part of a common pin head. To see it plainly, take the comb by the top bar and hold it so that a good light falls into the cell at an angle of 75 degrees from the tip of the comb, while your sight falls upon the cell at an angle of about 45 degrees. The scales, if present, will easily be seen as above described. This stage of disease in combs is easily seen, and is always a sure guide or proof of foul brood. Such combs can never be used safely by the bees, and must be either burned or carefully melted. Be sure not to mistake such marked combs in the spring for those soiled with bee dysentery. The latter have a somewhat similar appearance, but are more or less surface soiled, and will also be spotted or have streaked appearance by the dark brown sticky excrements from the adult bees.

Treatment.

"A bee-keeper who does not discover foul brood, before his nostrils remind him that there is something wrong with his bees, is not the proper person to treat the case." Dr. Howard, in his valuable book on foul brood, states: "I regard the use of all drugs in the treatment of foul brood as a useless waste of time and material, wholly ineffectual, inviting ruin and total loss of bees. Any method which has not for its object the entire removal of all infectious material beyond the reach of both bees and brood, will prove detrimental and destructive, and surely encourage the recurrence of the disease." In Wisconsin, I have tried many methods of treatment, and cured some cases with each method; but the one that never fails, if carefully followed, and that commends itself, is the McEvory treatment. Canada's foul brood inspector has cured foul brood by the wholesale—thousands of cases.

McEvoy Treatment.

"In the honey season, when the bees are gathering honey freely, remove the combs in the evening and shake the bees into their own hives; give them frames with comb-foundation starters, and let them build comb for four days. The bees will make the starters into comb during the four days, and store the diseased honey in them, which they took with them from the old comb. Then, in the evening of the fourth day, take out the new combs and give them comb-foundation (full sheets) to work out, and then the cure will be complete. By this method of treatment all the diseased honey is removed from the bees before the full sheets of foundation are worked out. All the old foul-brood combs must be burned or carefully made into wax, after they are removed from the hives, and all the new combs made out of the starters during the four days must be burned or made into wax, on account of the diseased honey that would be stored in them. All the curing or treating of diseased colonies should be done in the evening, so as not to have any robbing done, or cause any of the bees from the diseased colonies to mix and go with the bees of healthy colonies. By doing all the work in the evening, it gives the bees a chance to settle down nicely before morning, and then there is no confusion or trouble. This same method of curing colonies of foul brood can be carried on at any time from May to October, when the bees are not getting any honey, by feeding plenty of sugar syrup in the evenings to take the place of the honey flow. It will start the bees robbing and spread the disease, to work with foul brood colonies in warm days when the bees are not gathering honey, and for that reason all work must be done in the evenings when no bees are flying.

"When the diseased colonies are weak in bees, put the bees, two, three, or four colonies together, so as to get a good sized colony to start the cure with, as it does not pay to spend time fussing with little, weak colonies. When the bees are not gathering honey, any apiary can be cured of foul brood by removing the diseased combs in the evening and giving the bees frames with comb-foundation starters on. Then, also, in the vening feed the bees plenty of sugar syrup, and they will draw out the foundation and sore the diseased honey which they took with them from the old combs; on the fourth evening remove the new

combs made out of the starters, and give the bees full sheets of comb-foundation, and feed plenty of sugar syrup each evening, until every colony is in first class order. Make the syrup out of granulated sugar, putting one pound of water to every pound of sugar, and bring it to a boil. As previously stated, all the old comb must be burned, or made into wax, and so must all new combs made during the four days. No colony is cured of foul brood by the use of any drug.

A. I. Root, of Medina, Ohio, says: "The starvation plan, in connection with burning the combs and frames and building the hives, has worked the best in treating foul brood. It never appeared after each treatment, though it did in some cases where the hives were honey-stained and not boiled, thus comfirming the theory or fact of spores.'"

All the difference from the McEvory treatment that I practice is this: I dig a deep pit on level ground near the diseased apiary, and after getting a fire in the pit, such diseased combs, frames, etc., as are to be burned are burned in this pit in the evening, and then the fresh earth from the pit returned to cover all from sight. Often I use some kerosene oil, a little at a time being poured on old broodcombs, or those having much honey in, as they are hard to burn. If diseased combs with honey in are burned on the surface of the soil, there is great danger; the honey, when heated a little, will run like water on the soil, and in the morning the robber bees will be busy taking home the diseased honey that was not heated enough to kill germs of foul brood.

I also cage the queen while the bees are on the five or six strips of foundation. It helps to keep the colony from deserting the hive and going to other colonies.

R. L. Taylor, Michigan University Experimental Apiary, reports: "The plan that the colony be shaken out into another hive after being allowed to build comb for four days, I have proven, in 100 cases, to be unnecessary."

In Wisconsin I, too, have cured several cases by the one transferring, when honey was not coming in very freely, but it is better, and a great saving of time to both bees and owner, to exchange in three or four days, those foundation starters, for full sheets of foundation. Diseased broodcombs and those with honey in, if melted in a sun or solar extractor, the wax, honey or residue is not hot enough to kill germs of foul brood. This I have proven by several experiments. It must be boiled and well stirred while boiling, to be safe.

I do not believe in, or practice, burning any property, such as hives, bees, beeswax or honey, that can be safely treated and saved. Many times it is poor economy to save all, and so many bee-keepers are not so situated as to keep all diseased material from robber bees while taking care of it; the best and oly safe way is to burn the diseased combs and frames.

Utah.

Utah has county inspectors, and from one who has remarkable success I copy the report of his method of treatment:

"Wherever found it should be dealt with earnestly and with dispatch. If the colony is weak, I recommend something to kill the bees, and, in order to do this without letting a bee escape, take a tablespoonful of sulphur and place it in the hive entrance of the hives; if there is any breeze, turn the hive so it will blow in the entrance. Then fire the sulphur and it will soon kill the bees. This should be done early in the morning, before any of the bees are flying, as one bee escaping fro mthe hive might carry the disease to any colony with which it may take up its abode. If the colony is a strong one, I would keep the entrance partly closed, so as to prevent any other bees from getting in. Then as soon as fruit blossoms come out so the bees can obtain honey, I treat them. I procure an empty box of any kind, so it is clean, then find the queen, put her in a screen wire cage, which is easily made. Take a small piece of screen roll it up and tie a string arond either end; cork up one end, then place the queen and a few workers, for company, in the cage, and place in the other end cork. Put same in this box, and shake all the bees out of their hive into this box. This must be done in the evening, when no bees are flying. Keep the queen in this box for 24 to 48 hours, allowing the bees to fly in and out as they please. Next take a clean hive, with good, healthy combs or founda-

tion, and shake bees into it, letting the queen go, and they will be free from disease. The old combs are melted into wax, bringing same to a good boil. Often washing with boiling water any hives or implements that might contain disease. Whenever strictly followed, this has affected a cure."—C. Wilcox, Emery Co., Utah.

Pickled Brood.

Some seasons pickled brood is quite bad among bees, and in a few cases I have known it to reduce large colonies, even large apiaries, to doubtful hopes, but those same colonies, after I gave them treatment, were in a month free from disease. Sometimes it takes as careful handling as if foul brood. I do not believe it is contagious, for all I have seen 60 colonies in one apiary badly reduced by it. As an experiment, one of my out-apiaries had 50 colonies at one time with pickled brood. I treated them, and all were soon free from dead brood. At the same time I took ten of the worst brood-combs, where at least two-thirds of the brood were dead, and placed these combs in other strong, healthy colonies. They at once cleaned out the dead brood, and reared as nice brook as one could ask for.

Symptoms.

The larval bees (in last of May and through June) show light brown spots; a little later the cappings have small holes in—the cappings are not shrunken or dark colored, as in foul brood. The dead bee will be first swollen, with a black head dried to a hard bunch, and often turned up—Chinaman-shoe-like. The skin of the dead bee is quite tough, and, if punctured, the thin, watery fluid of the body will flow as freely as water, often a little yellow or brownish colored from the dissolved pollen from the abdomen of the bee. It has very little or no smell; does not at any time stick to the walls of the comb; is easily pulled out of the cell; is never ropy or sticky, and, if the colony is properly cared for, the bees will take care of themselves. Plenty of liquid, unsealed honey and pollen near the brood, and hives so protected as to keep the bees and brood comfortable on cold days and nights.

Never put bees on old black brood-combs, or those with dead broods in; better make wax of the combs, and give the bees full sheets of broodcomb foundation.

Treatment.

Keep all colonies strong, with plenty of unsealed honey near the brood, and if hives are properly sheltered, so as to be warm on cold days and nights, there will be little or no pickled brood. If the queen is old, shows signs of weakness by putting several eggs in one brood-cell and nursing several others, so that the brood is patchy, I would kill such a queen, feed the bees a little, and, when queen-cells are started, remove them all and give them a queen and bees, between two of her own brood-combs from a hive where she has lived. I do not think pickled brood is often the fault of the queen, but rather a lack of proper food and heat in the hive. In most cases, a shortage of liquid honey, or moldy pollen, even in hives with plenty of sealed honey in the outer combs. There is a time in spring in Wisconsin, between dandelions and white clover bloom, when there is no honey coming in from flowers, and often cold days and nights, so that the live bees consume the liquid, unsealed honey first, and cluster in a compact body to keep warm; the result often is the larval bee, just changed from the egg to a tender little grub, is either starved, half-fed or chilled, so that it grows slowly, and too often it dies, and then it is we first notice this about the time white clover honey begins to come in. In other parts of the state, where pickled brood appeared, it was from the same cause, and at other dates, which was due to a difference of time of honey bloom.

Wherever I fed daily some honey, or even sugar syrup, and kept the hive warm, all dead brood soon disappeared while in the same apiaries other colonies affected and not so treated, continued for some time, but got rid of it as soon as treated.

Strong colonies of bees in the fall, with a young laying queen, and an abundance of good honey, sealed or capped by the bees, if properly cared for during winter, whether in the cellar or in chaff hives, wintered out of doors in sheltered location, seldom have pickled brood, chilled or other dead brood, or dysentery, and are the colonies that give their owner profit.

Black Brood.

Black brood is another fatal and contagious disease among bees, affecting the old bees as well as the brood. In 1898, 1899 and 1900, it destroyed several apiaries in New York. Last year I found one case of it in Wisconsin, which was quickly disposed of. Dr. Howard made more than a thousand microscopic examinations, and found it to be a distinct form of bacteria. It is most active in sealed brood. The bees affected continue to grow until they reach the pupa stage, then turn black and die. At this stage there is a sour smell. No decomposition from putrefactive germs in pickled brood. In black brood the dark and rotten mass in time breaks down and settles to lower side-walls of the cell; is of a watery, granulated, syrupy fluid, jelly-like; is not ropy or sticky, as in full brood, and has a peculiar smell, resembling sour, rotten apples. Not even a house fly will set a foot upon it.

Treatment.

Best time is during a honey-flow, and the modified McEvoy plan, much as I have treated foul brood, by caging the queen five days, remove the foundation starters and giving full sheets, keeping que n caged five days longer. As great care should be taken of diseased hives, combs, honey, etc., as in foul brood.

Dysentery.

Dysentery among bees in Wisconsin in the spring of the year is often quite serious. Many colonies die with it. Dysentery is the excrements of the old bees; it is of brownish color, quite sticky, and very disagreeable smelling, and is sometimes mistaken for foul brood.

Causes.

1. Bees confined too long in the hives, so that they can no longer withhold their excrements, and are compelled to void the same on the other bees and combs.

2. Poor winter stores, gathered in the fall from honey-dew, cider mills, sorghum mills, rotten fruit; also some kinds of fall flowers.

3. Old and especially moldy pollen or bee-bread.

4. Hives too cold or damp. If moisture from the breath of the bees is not carried out of the hive by some means, such as through a deep cushion of some kind over the bees that will absorb moisture and at the same time retain the heat, or by some means of ventilation, so that all is dry and comfortable. If mold forms on the combs or cellar is so damp as to form mold, there is great danger the bees will have dysentery and die.

Treatment.

1. First of all, have an abundance of combs of sealed clover or basswood honey in brood-frames carefully saved, and see that each colony is wintered on such food. Three or four such combs will winter a fair colony safely, if confined on those combs late in the fall, and the hive contracted to fit the same. This is one of the most important conditions for success in wintering.

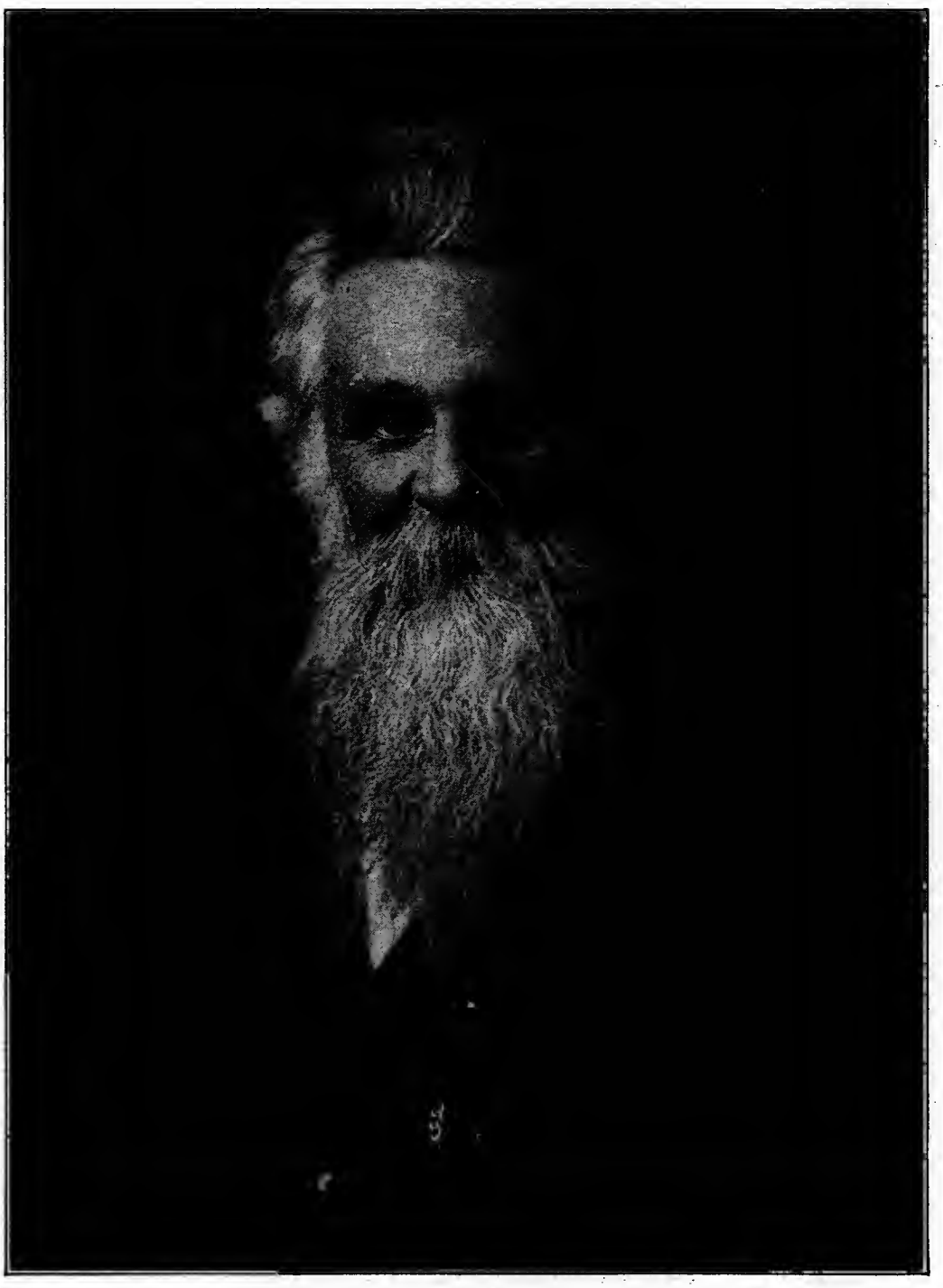
2. If in the fall the bees have gathered this unwholesome honey from the above named sources, it should all be extracted and either exchanged for those honey-combs, or feed the bees good honey or sugar syrup until winter stores are secured. This should be done before cold weather in the fall.

3. Hives contracted and made comfortable, whether in cellar or outdoors.

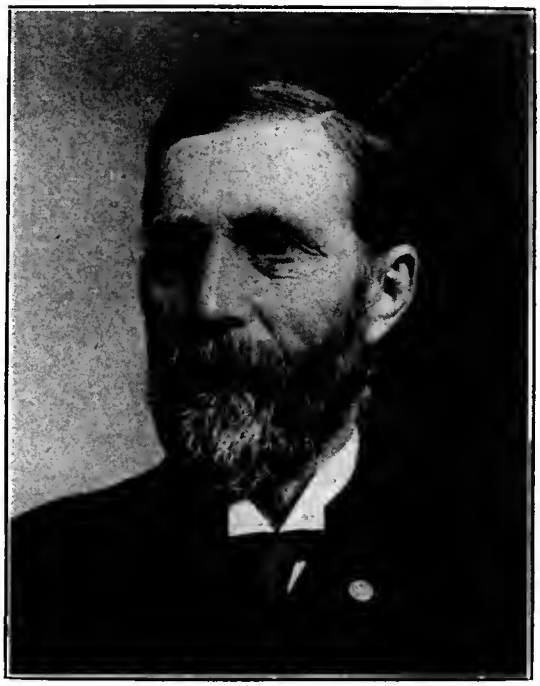
4. If wintered in chaff hives outdoors, with feed as above directed, and there come one or two warm spells during winter, so that the bees can have a cleansing flight, they will not have dysentery or dead brood, and will be much stronger when clover opens.

If wintered in the cellar, the bees will not need so much honey, and if the winters are generally long, with doubtful warm spells, the cellar will be best. But to keep the bees from dysentery, so often fatal to cellar-wintered bees, they should have such winter stores as above spoken of, then the cellar kept at a medium temperature, about 32 deg. F., ventilated so the air is fresh, and no mold will form in the cellar. Fresh air-slaked lime on the bottom of the cellar may help, if it is damp or has poor air.

5. Dysentery will not appear if bees are kept on sugar syrup, or best grade white clover or basswood honey, and are in a dry place, either sheltered by cellar or chaff-hive.



E. J. BAXTER, President.
And a Director of the National.



JAMES A. STONE, Secretary.

PROCEEDINGS

—OF THE—

Twenty-Fifth Annual Session

—OF THE—

Illinois State Bee-Keepers' Association

November 29 and 30, 1915,

AT THE CITY HALL.

The 25th Annual Meeting of the Illinois State Bee-Keepers' Association was held in the City Hall at Springfield, Illinois, November 29th and 30th, 1915.

The meeting was called to order by the President, Mr. Emil J. Baxter, at 10 a. m., November 29th.

President Baxter—The invocation will be the first in order this morning.

Mr. Stone—Mr. President, Ladies and Gentlemen: If there is any one in the world who depends on Divine Providence for the good things he gets—it is the bee-keeper. The Lord gives the rain and the sunshine. We would not have a pound of honey nor any of the other good things produced were it not for our Heavenly Father, and we want to acknowledge the Supreme Being in all our deeds and our acts. Reverend Mr. Gunter is here, and he will open the meeting this morning with prayer.

Prayer by Rev. George T. Gunter.

Our Father in Heaven, we come this morning first of all, before we shall address each other and before we shall take up the program of this hour and of these days, to address Thee. We come because we recognize the peculiar fitness of coming before God before we shall ever come before men; and we come this morning recognizing the unusual propriety of thanking Thee for the good things of life. We thank Thee because we have down deep in our hearts, whether we have made public confession or acknowledgment or not, that conviction that Thou art God and above all things else Thou art supreme and the giver of all that blesses, beautifies and sanctifies the children of men; and as we come this morning, Oh, God, we recognize that that little insect which this morning shall be the theme of discussion, so little that the average man seldom stops to think of it, and so apparently insignificant that not one man in ten thousand turns to thank God for the bee, and yet as we come to think about it this morning, Thou hast planted deeply within the very constitution of this little bee the very fundamentals of human life. We thank Thee for the lessons which we may learn; the lessons of industry, and Oh, God, how much we need to learn the lesson of industry in this society of ours. How many drones there are, and how many men and women there are in these days, that live like parasites upon the industry and labors of other men and other women; and we need this morning to sit beside the little bee and learn something of the beautiful co-operative plan of human life. We thank Thee that in this world of beedom we have the wax maker, the comb maker, the honey maker; that each works in beautiful harmony and co-operation with the other so that the fine product which comes out to gladden the hearts of humanity is the result of harmony and co-operation; —so that through the sessions of this conference we beseech Thee that these men, who have come together to study and to confer and to exchange ideas

and plans, shall not altogether commercialize the bee, but that they shall recognize today, and as they go back to work midst the bees, that there is that in them that should teach men something of a better and higher life. Let Thy richest benediction rest upon this conference; bless us in our relationships and help us to know that Thou hast planted great, deep lessons all about us if we will but open our hearts and minds to their reception, and we will not go through life blindly but will have our souls stirred and thrilled within us because of the marvelous manifestations of the goodness of God. Bless every man and woman here, and God grant that, by reason of their association with this mighty worker, this splendid type of all that is co-operative in the world, they may be better citizens by reason of this association; sanctify, we pray Thee, every theme that is discussed, and we pray Thee that from these days together these men shall go out to live closer to Thee as they shall devote themselves to the business to which they have given themselves.

We ask it in the name of Jesus Christ who while he was upon earth looked around and saw in the flower the evidence of God and the manifestation of his goodness.

Mr. Baxter—The next thing in order will be the welcome address.

Mr. Stone—Mr. President, when we began to look around for a place of meeting, a place to hold our Convention this year, we did not like to go anywhere but the Senate Chamber where we were last year, but we saw that the Legislature was going to be called again. It worried us some to know where we would go. We went to the Secretary of State and he suggested the Commercial Association, and we got on the right track at once, and through the kindness of the Commercial Association, of which our friend, Mr. Conkling, is the Secretary, we have received this nice room, and we will all have every accommodation they can give us, and they give it to us willingly and gladly.

We now have the pleasure of introducing Mr. Conkling, who will give us the welcome address.

ADDRESS OF WELCOME.

Mr. President and Members of the Illinois State Bee-Keepers' Association:

Springfield is always glad of the opportunity to welcome its visitors. While your Convention is not as large as probably many Conventions that meet here, yet I want to assure you that the welcome that we extend to you is as hearty as any we could extend to the largest Convention that meets here. It has been said that a hive of bees numbers many thousands; that 97 per cent of them are workers; 3 per cent of them are drones. That being the case, it seems to me that the bee industry should be in the front ranks of the industrial workers of the world. The bee and its occupation is also a by-word for the business man. If you meet the business man on the street and you ask him relative to his business, if his business is good he will invariably say that "We are as busy as a bee," thus showing that the industry of the bee is used as a very high mark.

We are glad that you have selected Springfield before as your meeting place. We are very glad that you are here today; and I assure you that we extend to you a hearty welcome and a cordial invitation to come again next year.

Our Commercial Association is located upon the third floor (City Hall Building) where we have a nice rest room of moderate size, and we have accommodations for you in the way of stationery which you may have for your own use, and, if you do not feel like writing your own letters, the stenographers will do it for you.

We have nothing there except the good old ice water so if you have an appetite for anything stronger than that you will have to bring your grape juice along with you.

We offer you the services of our officers and members of the Commercial Association, and they join with me in extending to you our hearty welcome today and the earnest desire that you may come back next year and we will be glad to see you.

Mr. Stone—It now comes our turn to introduce the President. The next on our program is the President's Address and the response to the welcome address.—Mr. Baxter.

RESPONSE AND PRESIDENT'S ADDRESS.

Mr. Chairman, Ladies and Gentlemen:

On behalf of the State Bee-Keepers' Association of Illinois I wish to thank the Springfield Commercial Association for the most hearty welcome they have given us to their city. Our Association has been meeting in Springfield ever since its birth some twenty-five years ago, and our members have always had the glad hand of fellowship extended to them while here, and have always had a most enjoyable time. I hope and trust this may ever continue.

Springfield, as the capital of the state, is a most interesting city aside from being the once-while-home of our martyred president, the incomparable Lincoln.

The state capitol is the creation and handiwork of a citizen of my home town. Much of the stone in its walls was dug from the quarries where I used to wander when a boy while on my geologizing tours, so that seeing this most magnificent structure recalls memories of my boyhood days.

Springfield has many other places of attraction, too many, in fact, to mention all of them. Let us hope, then, that Springfield, the Queen City of the Prairies, may continue to grow and prosper for time without end.

Today at the opening of our annual session it is fitting that we take stock of the past season, analyzing the conditions that have prevailed, to see, if possible, wherein we have been remiss in taking advantage of the conditions that were favorable, or of improving those that were bad, or of mitigating their effects. The season of 1915, in the much greater part of Illinois, opened up with many forebodings to the bee-keeper. The terrible drought of the preceding year—I ought to have said of several years—still continued. White and alsike clovers were all dead. Sweet clover, in most places, did not seem to be in much better condition, and it did seem as though there would be no bloom from which a crop of honey could be expected. All colonies of bees in the lower four-fifths of the state had gone into winter quarters light in stores and generally weak in bees, being especially deficient in young bees, owing to the very adverse weather conditions that had prevailed during all of the year, and especially during the fall. The result was that the loss of colonies in wintering was very great and most of those that did survive came out of winter quarters so weak that it took months to build them up again, even when they survived at all. Thanks to the very favorable weather during April, otherwise the mortality would have been appalling. About the middle of May a great and unexpected—and I might add a sudden—change in the weather conditions took place. It began to rain, and it continued to rain, rain, rain all through the remainder of May, all of June and July, until the ground was so thoroughly saturated that the farmer could not cultivate his crops at all, the result being that all corn fields, and small grain stubble, grew the largest and finest crop of heart's ease that I have ever seen. The bees up to the middle of August had hardly held their own, and in many cases had to be liberally fed to keep up brood rearing, but, after the middle of August, honey began to come in so fas that it was difficult to keep the bees supplied with the necessary supers in which to store their honey. The crop in some instances was almost marvelous for the large amount of honey stored in so short a time. I know in one case, where a bee-keeper with 600 colonies averaged 100 pounds per colony, nearly all of which was gathered in the space of about two weeks.

The indications are, from reports received, that from a fair to a good crop of fall honey was gathered over the greater portion of the state. The bees, in nearly all instances, have stored an abundance of the best of honey to carry them over until the first of next May or longer, and have gone into winter quarters quite strong, especially in young bees, so we may look for them to winter well where properly packed.

Foul brood has received more attention from the Inspectors than usual, and much good work has been done to clean it up. And yet, we must not relax our energies and vigilance in fighting it. I am not yet satisfied with what we have accomplished in subduing this dreaded disease, and I recommend that, this coming year, which promises to be a favorable one for fighting this disease, we make still greater efforts to clean it up.

Your President was authorized, at the last annual meeting, to institute and conduct not to exceed four bee-field meets in such parts of the state as he thought most favorable for good results. Owing to the unfavorable weather conditions only two such meetings were held—one at Hamilton, which was a grand success—and one at Rockford, which your President was unable to attend. I would recommend that your incoming President be authorized to again hold not to exceed four such meetings during the coming season.

In the matter of continuing our affiliation with the National Bee-Keepers' Association, I hardly know what to recommend, but I believe that we have nothing to gain by such affiliation and therefore might just as well save the expense and use the money we are paying that Association for a better purpose.

President Baxter—The next thing in order will be the reading of the Minutes of our last annual meeting.

Mr. Stone—Mr. President, I will have to make a little apology for not having that. It is in our last report and all the bee-keepers have read it there, and I did not have the time. After I left the hospital (some of you know that I was there), in just the four weeks and a half that I spent in gaining strength enough to do it I extracted 900 lbs. of honey and got my bees fixed in winter quarters, packed and all that, and I didn't have any time to get those Minutes ready, and I thought they had often been dispensed with by motion and I would let them go and try to get enough time to put in my report; but I want to say a word. The weather is such that we are sorry that hardly any of our bee-keepers from the immediate neighborhood are here. All of our members near by Springfield are not here.

President Baxter—What is your pleasure in regard to the Minutes?

Dr. Baxter—I move that the reading of the Minutes of the meeting be dispensed with.

President Baxter—It is so ordered. We will now listen to Mr. Stone's report.

SECRETARY'S REPORT FOR 1915.

Judging from the past, we are inclined to look forward to a larger membership the coming year than we have had the past year. We have observed in the years gone by that the large honey crops were followed by an increased membership, while small crops were followed by a decreased membership. On account of the poor honey crop last year the result was, for this year, a diminished membership list by 49 members (185 this year, including all the affiliated societies, and last year—234).

We notice that during the year ten members have sent in their dollars, who did not want to join the National. It seems that a $2 fee frightens them; even though they get a membership in the National and the Review as well. Last year we received an enclosure of $1.50—when that was the amount of fees for the two Associations—and the writer said—if this is enough for membership in the State Association "all right, for I do not want the Review." Gave him what he asked for, and returned him 50 cents.

It is our opinion that the Secretary —in getting out the needed letter heads, and the applications for members—should first state that $1 makes them a member of the State Association, and then make it known what they will get for $2. This will make it plain that if they wish to join only the State Association they can do so.

The early prospect for honey this year was so poor that we knew one bee-keeper who talked of feeding a part of his bees through the famine and let the rest of them starve as there was no prospect of any clover honey. I have not found out what he did, but I wonder what he thought when the fall flow came in. It is a very flattering promise of white clover that we now have for next year; but we will not say further as to this, but leave it for the question box.

It was a great disappointment that your Secretary met with, in not being able to attend the tri-state meeting at Hamilton on the 7th of August, in order among things that he might have something nice to relate. But our President and some of our members who were there will be able to tell of the good meeting they had. We will also want to hear from our President as to any further field meetings that may have been held.

It is a remarkable fact that the American people are prone to think that what they know others know also; and so we as bee-keepers suppose that, because we are familiar with the things pertaining to our industry, the public generally are as well informed. But we wish to repeat—what you all know—that there is no industry in the country anywhere that the people generally know so little about. To illustrate: A lady bee-keeper in Chicago, wishing to become a member of the nearest Association to her home, wrote to "Gleanings" asking for information. Gleanings gave her the address of the Secretary of the Illinois State and she wrote a letter to him that he forwarded to the Secretary of the Chicago-Northwestern, E. H. Bruner, 3836 N. 44th Avenue, Chicago.

At our state fair this fall, we were asked a number of times: Would you advise every farmer to keep a stand or two of bees? Our answer was: No, except you expect to take care of them. Why? Because the average farmer, not being informed along the line, might lose his bees with some infectious disease, and his empty hives would be a danger to others' bees. This thought may provoke discussion, for we have heard it argued otherwise.

The State Board of Agriculture, in their last fall premium list, saw fit to cut out the premium given for handling bees in a cage. This will be a subject for our premium list committee to report. In conference with bee-keepers at the fair, the idea was that our Association should ask for space to be given for the exhibit of apiarian supplies, as nothing would be of more interest to bee-keepers, or more educational to the general public.

We are being asked each year for libraries of different states to be placed on our mailing list, for our annual report; from California, west, to Massachusetts, east.

Finally, Mr. President, with the approval of this Convention, it is our mind that our annual report should be gotten out earlier in the year, and, if the National cannot furnish its report by an earlier date than it has been doing, then let it be left out. What say you?

President Baxter—You have heard the report of the Secretary, what will you do with it?

A member—I move the report be approved.

President Baxter—The next thing in order will be our Treasurer's Report.

CHAS. BECKER, Treasurer.

TREASURER'S REPORT.

Illinois State Bee-Keepers' Association.

Charles Becker, Treasurer.

DISBURSEMENTS.

From November 5th, 1914, to November 27th, 1915.

Date 1914	To Whom Paid	No. Voucher	Amount
Nov. 19	Prof. J. G. Mosier	65	$ 4.60
Nov. 19	C. Becker	66	.96
Nov. 19	Burke Vancil	67	10.00
Nov. 19	Rev. MacLeod	68	5.00
Nov. 20	C. Becker	69	25.00
Nov. 20	Supt. State House	70	5.00
Nov. 20	L. M. Stewart	71	10.00
Nov. 25	Mrs. A. L. Kildow	72	5.00
Nov. 25	Mrs. Harry L. King	73	4.00
Nov. 25	Lewis Werner	74	3.00
1915			
Jan. 4	E. H. Bruner	75	17.74
Feb. 24	L. M. Stewart	76	62.50
Mar. 10	L. M. Stewart	77	85.00
Mar. 30	E. J. Baxter	78	61.50
May 14	Illinois State Register, printing report	79	436.07
May 14	James A. Stone	80	50.00
May 22	E. J. Baxter	81	11.62
Nov. 9	Lewis Werner	82	24.20
Nov. 9	J. A. Stone	83	58.57
Total Paid			$ 879.76

Bal. on hand in State Fund	$1,336.21
Received on Ass'n Fund	286.94
Total Receipts	$2,502.91

ASSOCIATION FUND.

On hand Nov. 18, 1914	$ 197.44
Received from J. A. Stone Nov. 9, 1915	89.50
Total	$ 286.94
Credit paid J. A. Stone	100.00
Balance on hand	$ 186.94
Credit Nov. 9, 1915, J. A. Stone	89.50
Balance on hand Nov. 18, 1914	197.44
Total	$ 286.94
Bal. on hand in Association Fund	$ 186.94
Paid J. A. Stone	100.00
Paid into State Fund	879.76
Balance on hand in State Fund	1,336.21
Total	$2,502.91

Respectfully.
CHARLES BECKER,
Treasurer.

President Baxter—You have heard the report of the Treasurer, what will you do with it?

Mr. Kildow—I move that the Treasurer's Report be received and turned over to the Auditing Committee.

Motion seconded and carried.

President Baxter—I will appoint on that Committee Mr. C. P. Dadant and Dr. Baxter.

President Baxter—I believe the $61 I received was the expense of your delegate to Denver.

What is your further pleasure?

Mr. Stone—In itemizing the account, I wish the Treasurer would state what it is for. The item of $58.57 paid to James A. Stone is for items as follows: (Paid for supplies during the year):

State Fund to Jas. A. Stone.

1914.		
Nov. 14	Express on badges	$ .26
Nov. 14	One rubber date stamp	.25
Nov. 14	One bottle ink	.65
Nov. 17	Telegram from B. N. Gates	.60
Nov. 20	Kessberger, for photograph of group	2.00
1915.		
Jan. 7	1,000 stamped envelopes and printing	13.00
Jan. 7	1,000 envelopes and printing	2.50
Jan. 7	Printing 1,000 circular letters, $8.75; postage, 30 cents	9.05
Jan. 12	Stationery and postage	.31
Jan. 16	One fee in stamps	.50
Jan. 19	Gummed paper, 25 cents; one rubber stamp, 50 cents	.75
Apr. 29	250 large Manila envelopes.	2.70
May 6	100 6 cent stamps for sending out Report	6.00
May 6	200 5 cent stamps for sending out Report	10.00
Nov. 4	50 badges for Convention	10.00
Total		$58.57

President Baxter—We will hear from the Legislative Committee, I believe Dr. Baxter was the Chairman.

Dr. Baxter—You were the Chairman, Mr. President.

President Baxter—Well, ladies and gentlemen, I don't know just what to report. I know that we secured our $1,000 for the Association and I believe we secured the $2,000 for the Inspector, but I believe some part of it was appropriated in an illegal manner, so it was cut out by the Supreme Court.

Mr. Kildow—$600 of it.

President Baxter—What was that for, the paying of deputies, was it not?

Mr. Kildow—No, the Inspector's per diem; that was all that was held up.

President Baxter—I think we will get that; we are all right, we have gotten what we expected to get and we will be all right for the next two years; and, if there is no meeting of the legislature this coming winter, we will not have to worry about that.

President Baxter—Are there any other committees, Mr. Secretary?

Dr. Baxter—In regard to that Legistive Committee; you know the legislature is in session now and the $614 that is coming to Mr. Kildow will have to be looked after by the Legislative Committee. In fact the whole appropriation is slightly in jeopardy for the Inspector; I think it will be well while we are here to see the members of the Appropriation Committee.

President Baxter—Well, we will do that.

Mr. Kildow—If the legislature does not re-make that appropriation we are out, as I understand it.

Dr. Baxter—We will be out the $614.

Mr. Kildow—If you have no Inspector he cannot appoint any deputies, so you are out; we have to look after the whole appropriation of the $2,000, the way it looks to me, while just now the injunction holds out that part that goes to the Inspector, per diem. I was up to see about it this morning, they have paid the expenses up to date but they have held my per diem for September and October. They have it tangled up somewhere; I had to make a schedule out, stating what I pay the deputies per diem, etc; the $614 was to pay me per diem; that is the only part the injunction has held up, but if they don't

fix the rest of the appropriation it looks like we would be in the soup. It would be well enough to have this Legislative Committee look after that.

Mr. Hawkins—Why would it not be a good idea, as long as the legislature is in session and that question has been brought up, for everybody, every member of this Association who is here, to write the members of that Board, or the Chairman of that Board, as good a letter as we can, and mail it to the Board, favoring the re-appropriation of that money? We might as well do a little lobbying as well as all the other associations in the State are doing. It seems to me that a number of letters coming in like that would make a good impression.

Mr. Dadant—I think it is important for the Association to pass a resolution and pass it unanimously if possible, after the report of the Inspector, stating to the legislature that we insist on this appropriation as necessary to the success of bee culture in Illinois. I believe, if we do that, it ought to do more good than private letters, but of course the private letters could be sent also.

President Baxter—That point is well taken. Mr. Dadant, will you get up one of those resolutions to present to the Association this afternoon?

Mr. Dadant—I think we should have the report of the Inspector.

Mr. Hawkins—I believe that a letter would be even better than to personally see those men. When they come down here quite often it is a fact they are very busy, and at a time when it might be convenient for us to see them it might be exceedingly inconvenient for them to take the time; but a letter would get to them when they are not over crowded with business and their minds would be a little more receptive to meeting our demands.

Dr. Baxter—With regard to letter writing: I have been on three committees this last legislature. The average man pays no attention to a letter; he has a great deal of mail from hundreds of other people; and, if you really want to get anything, the way is to buttonhole your man and get his promise; nail him right down and stay with him; while a letter might reach a few men, it will not reach a great majority of them.

President Baxter—That has been my experience; six years ago when we first got this apropriation, if we had not seen to it personally and nailed our men right down, we would never have gotten it.

Mr. Stone—There is one matter that I believe ought to be settled before we go into the Question Box, and that is in regard to our union with the National; and that is a question of pretty broad foundation. Our members want to pay their fee, and we do not know what to charge them until we settle this matter of the National; we can tell them $1 makes them a member of the State Association and let them pay that, but maybe they want to join the National and get the Review.

President Baxter—I would not be in favor of settling that question now. I want to thrash this out thoroughly before we do anything, and I would not want to do that before tomorrow morning. Let them pay their $1 to the State and if we decide to remain affiliated and they want to pay their $.50 they can and if they want the Review they can pay their dollar; they do not have to pay $2 to become a member of the National and State Society, because it was unanimously decided at the Convention at Denver that $.50 would make one a member of the National without the Review and $1 for a member of the National with the Review.

Mr. Stone—Is it so stated in their report?

President Baxter—I don't care what their report says; I know better than the Secretary does what occurred; the Minutes have been made up to suit their own fancy. We will not have to go by those Minutes. I have copies of the report I took myself and I know what should be in there and what should not.

I met with Mr. Williams and with the Secretary, or the Assistant to the Secretary, I forget his name, and with Mr. Foster, in the hotel just previous to leaving, after we had adjourned sine die, and the Minutes were in such a mess we could not make head nor tail to them, but I had a copy of what had passed, and we agreed on taking those, and they were submitted to Mr. Pellett and Mr. Phillips and several others who took a very decidedly active part in the proceedings, for verification, and they

verified them, and I know these Minutes that are printed in this book are not what they should be.

Mr. Pyles—In order that the Minutes become law, they must be adopted either at the close of the meeting or at the next annual meeting before they become a fixed law, and if they have not been adopted they can be changed, and they cannot if they have been adopted, unless by another act.

I myself would be opposed to going on and undertaking to settle this matter at this time because there will be some questions along this line and I think it should be thrashed out thoroughly before any action is taken. Perhaps some one here is interested in having us remain affiliated with the National. I myself, of course, am in favor of standing upon our own foundation but I do not believe in taking unfair advantage of the man who may believe the other way; and I think we should take action on this tomorrow morning.

Mr. Stone—If a man wants to be a member of the State Association and the National and get the Review he pays $2; the State Association gets 50 cents.

President Baxter—My understanding is not that way.

Mr. Stone—That is the way I have been instructed.

President Baxter—I know that it was decided out there that it was not obligatory on any person joining the National, to take the Review; the Review is no part nor parcel of the National; strictly independent of it.

Mr. Stone—$2 pays the whole bill; for the Bee-Keepers' Review $1, and 50 cents goes to the National to pay their expense, 50 cents going to the State.

Mr. Hawkins—I think that is one grand bluff. If they can get $1 for the Bee-Keepers' Review they will be $1 ahead because I do not value the Bee-Keepers' Review very highly. I think somebody has tried to get by with that $1 proposition for the Review. It has been done as a great many other things are done; they fix things over to suit themselves, and the last one fixes it to suit himself. I feel confident our President, having been on the ground, would know what kind of Act was passed by the National Bee-Keepers' Association and if he says it was $1 for the National and the Review I believe the President understood it that way, regardless. Some of the people who have been doing work for the National Bee-Keepers' Association, it looks as though their work has been more or less crooked from the start. I think the intention was to wreck the National from the start.

Mr. Seibold—Does not the National Bee-Keepers' Association own the Review?

President Baxter—No, they don't. They did until the last meeting; they sold it.

Mr. Dadant—Mr. President, I want to say that, in this matter of the National and the Review, there has been considerable misunderstanding, but I think one thing stands out very prominently, that the present editor of the Review is as honest and straight a man as you can find anywhere, and he has been laboring under great difficulties, and managing that paper at a loss. I think we should give him credit for doing his best.

Mr. Pyles—I have a question here along this same line, that it might be well to read before we get to thrashing it out.

Question—Has the National Association benefited the average bee-keeper in the last year, and if so to what extent?

President Baxter—We might just as well answer that question, if there is any one here who can answer that; then we can talk further upon the advisability of remaining with the National or not remaining with it. Does any one want to volunteer this information?

Mr. Diebold—I have not been benefited, except by reading their report of the National Bee-Keepers' Association at Denver; that is the only benefit I received.

President Baxter—They published a partial report in the Review, nothing very definite, and probably not exactly as it took place there. I can say that, because we had some pretty tough times there. A committee was appointed for the purpose of incorporating the National at the St. Louis meeting a year ago last February; our President, Mr. Gates, was on that Committee; Mr. Gates was with us here

NAMED AS NUMBERED: (1) L. E. Pyles; (2) J. W. Bowen; (3) T. E. Laurie; (4) Dr. E. F. Phillips; (5) Miss Lilian M. Stewart (Stenographer); (6) C. S. Bennett; (7) Geo. W. Williams; (8) Mrs. G. M. Withrow; (9) A. L. Kildow; (10) Chas. Valerius; (11) Frank Bishop; (12) W. R. Beaver; (13) Harry L. King; (14) President Emil J. Baxter; (15) Mrs. W. H. Stumm; (16) Dr. A. C. Baxter; (17) Mrs. A. L. Kildow; (18) Secretary Stone; (19) C. P. Dadant; (20) H. W. Mandle; (21) A. J. Diebold; (22) G. M. Withrow; (23) Treasurer Chas. Becker; (24) Geo. Sensteanu; (25) C. E. Bender; (26) Frank Desort; (27) A. O. Heinzel; (28) W. H. Stumm; (29) Jake Frey; (30) F. B. Stanley; (31) Mrs. Harry L. King; (32) Kennith Hawkins.

last winter. He in connection with Mr. Stone, our Secretary, undertook to incorporate the National. Mr. Stone had a friend here, a prominent lawyer, and got up papers of incorporation, also a set of By-Laws and a Constitution, and they incorporated here in Illinois. Knowing what they had done at the Convention in St. Louis the year before, I, as the delegate from this Society to Denver, took precautions so they would not get ahead of us at Denver; I wrote to Mr. Stone for a copy of the incorporation papers and the By-Laws and Constitution; so I went to Denver prepared.

The meeting was called to order; Mr. Williams was the Secretary; and things proceeded on pretty smoothly until the question of incorporation came up; then Mr. Williams objected to incorporating the Society at all; he said that they had no right to incorporate; that the old Constitution would still exist, even though they did incorporate.

But there was a set of delegates there, consisting of Mr. Gates, Mr. Pellett, Mr. Yaeger of Minnesota, myself, and a few others whom I cannot remember, who were determined to see this Association incorporated, and to see that none of the members of the National were to be held legally responsible for any of their debts, especially as they persisted in going into the supply business.

Well, I made a motion that the papers of incorporation as filed here in Illinois be accepted as the papers of incorporation for the Association, and that the new Association absorb the membership of the old Association, and it was objected to by Mr. Williams, but in spite of that it carried.

Then the next thing on the program was to adopt the Constitution of the new Association.

Mr. Williams had a copy of the Constitution. I believe Mr. Stone sent one to Mr. Townsend, and Mr. Williams got his copy; Mr. Williams took the copy and locked it up in his valise, and locked the Minutes up and was about to leave the room; he thought in that way we would have nothing to go by; and I pulled out my papers of incorporation and the Constitution; we began to work and Mr. Williams came back, and I said to him: "Mr. Williams, if you don't unlock your satchel and give us the Minutes of this meeting so far, and last year, I will get out a writ of replevin against you and have those papers here and that will be the last of you." He studied a few minutes and opened up his valise and he got the papers and went to work, and that is the kind of feeling and the fuss we had all through the meeting; one man tried to block the whole thing, and that one man was undoubtedly retained by Mr. Townsend; so you may imagine all the benefit a Society like that can do to the bee-keepers at large throughout the United States, when that feeling exists.

After incorporating, and adopting our Constitution and By-Laws, the By-Laws and Constitution provide for no publication of the Review nor for the engaging in the sale of supplies.

The Executive Committee was authorized to receive bids for the Review, and Mr. Williams on behalf of Mr. Townsend made a bid, and Mr. Foster also made a bid, and Mr. Foster's bid was thought to be the better of the two, and the Executive Committee was authorized to sell the Review to Mr. Foster, and did so sell it to him.

I don't know whether he ever got hold of the paper, or whether it was transferred to him or not. I, as one of the Directors, have never been informed, but I got a letter from Mr. Townsend some time ago containing a contract in which the Review was to be sold to him for a certain consideration, and he wanted me as one of the Directors to sign the contract transferring the Review to him.

I told him the Executive Committee had not been authorized to sell the Review to Mr. Foster and until that Executive Committee had reported to the National what their actions had been in the matter it would be folly for any one else to sell to any one, that the sale would be illegal; and that is the way the matter stands.

I could tell you a great deal more about what took place there but I don't think it is necessary just now. I can say that I am on the fence; I don't know what to do.

I understand that Mr. Tyrrell, who held a bill against the National for something like $500 unpaid on the Review, has transferred all of his interest in the Review to Mr. Townsend.

That being the case, I do not see where the National is liable any more.

I understand that Iowa is going to withdraw from affiliation, and, if Iowa and Illinois withdraw from affiliation with the National, the National will be dead because Illinois and Iowa constitute a great majority of the membership.

Another thing:

The Board of Directors, while the Review was made the organ of the National Bee-Keepers' Association, were authorized that, whenever the Review published anything, which in the opinion of the Board of Directors was not favorable and in accord with the ideas of the affiliated societies, then the Board of Directors should forthwith discontinue the Review as an official organ of the National Association.

Now during the past year the Board of Directors would have been warranted in taking that step; and the minute the Directors take that step the Review is dead, so there you are; you can do as you please about it.

Is there anything further on this question?

Mr. Dadant—I wish to take exception to one statement you make: That, if the Illinois and Iowa Associations withdraw from the National, the National will die. Perhaps if you would put it, the present National organization would die, that would be right; I believe that the National Association has gone through so many storms it is bound to continue I think mistakes were made the last few times in organizing as we did.

The United States are so large it is almost impossible to get representation from all the states to be sufficient to carry out the wishes of every state or the bee-keepers from every state.

When the National meets in the east, the western states are absent, and, when it meets in the west, the eastern states do not respond; we rarely get any representation from the south.

I have attended so many meetings and I have found that it becomes localized wherever it goes.

This will not prevent it from continuing those meetings, but one question is, whether in its present form it can continue to do good to the bee-keepers of the United States.

Mr. Baxter—I will say that we tried to reorganize in St. Louis. Mr. Dadant was there and knows what a stormy time we had; we sat up until after midnight writing Constitution and By-Laws and resolutions and had them adopted by delegates; and then they were fixed up afterwards to suit the purposes of some one; we had the same thing in Denver; and in view of that I am satisfied that the National will die a natural death; it will never be reorganized, I believe.

We may organize a new Association, and I think that is the only thing we can do, but this society will never be reorganized and it is bound to die, sooner or later.

Mr. Baxter—Mr. Kildow, what have you to say on the subject?

Mr. Kildow—It is my opinion, we had better kill it in the form it now is; and then, if they want to organize it and get it in some kind of shape, all right; under present conditions, the way it has been running, it looks like an up-hill proposition; I have thought so for three years but I was with the majority; it has done me no good, so far as I can see; I am willing to let it die a natural death.

Mr. Pyles—I believe a great many will remember that two years ago I made a statement over in the State House, that none of us cared what the dues of the National Association were —$5 or $10, so that we got $5 or $10 or more dollars good of it; nobody cares about expense, if we are getting something for our money, but I cannot see where anyone will get anything out of it; some people may get something, but I can't see where I would get any benefit.

Someone said this morning in the room here that they could buy goods from the National and they were able to advertise in the Review—but I believe Dr. Baxter said he could buy cheaper through some firm in Illinois or Wisconsin; I cannot see where the Review has done any good. I said two years ago, that when Mr. Hutchinson died the Review died with him, and we must first raise some one up in Mr. Hutchinson's place with his ability, who will place his stamp on the Review as did Mr. Hutchinson, in order to make the Review worth

taking. I do not believe we have a man who is fit to take Mr. Hutchinson's place and continue the Review.

I cannot see any benefit in my belonging to the National.

President Baxter—We will lay this question over until tomorrow.

Mr. Stone—I will say in this matter that, if we have to affiliate with the National in a body or not get the benefit of it, I am opposed to it because I believe a good many members stay out of our Association because the fee is so high and they cannot join one without joining all; by all I mean, the Review as one, the National as another, and the Illinois State as another.

One man sent in $1.50; he said, if that is enough to join the State Association, all right, but, if I have got to take the Review to join the State Association, you can send me back my money; I put him down for $1 for joining the State Association and sent him back $.50.

Pres. Baxter—I think we decided last year it was not necessary; that they could join the State Society and not the National, if they desired.

Mr. Stone—Since they were reorganized I didn't know how it stood.

President Baxter—Our State corporation compels us to accept the fee of any one who wants to join this society.

We will defer this matter until tomorrow.

Mr. Stone—Before we adjourn: The Secretary of the Commercial Association has offered us the room that is just off from their office in which to meet this afternoon. We will me there after dinner, on account of the City Commission needing this room for an hour or two in the afternoon.

QUESTION BOX.

Question—Queens reared in June—will they swarm the same season?

Mr. Kildow—Sometimes they will.

Mr. Dadant—I know of an old colony that swarmed twice; and of course the queen rearing in June it was the same season.

Mr. Kildow—A little out of the usual but they will do it.

President Baxter—I have caught as many as seven or eight queens in one swarm, the second swarm.

Mr. Pyles—I imagine the idea was —A queen reared and mated in June, in the same colony, will it swarm again the same year?

President Baxter — That depends upon circumstances.

Mr. Kildow—After a colony swarms and rears new queens, they will swarm again that season and sometimes they will swarm twice after that; that is unusual.

Mr. Mandle—I got a swarm around about the 24th of June. They swarmed three times.

Mr. Dadant—I think it would be a mistake for us to lay down cast iron rules for bees to follow; I don't believe they would follow them.

Mr. Pyles—It has been given out by a great many leading bee-keepers that Italian queens re-hatched and mated from the same hive will not swarm if they have been given room enough that year. They can be forced to swarm, I believe, and yet there are some colonies that will not be forced to swarm. The first time I was in St. Anne I went to Mr. Duby's; he had been trying to force his bees to swarm but they could not be forced; but in most cases I believe that, if you give the bees sufficient room to start with and then crowd them down on room, they will swarm.

Mr. Coppin—The way I understand it, it is the honey flow that causes them to swarm; if there is no honey flow, they will not swarm. You may try to force them, but it is the honey flow that causes them to swarm; of course it is different if the bees have not room to start the honey and there is a good flow of honey in the field; but we don't have many such swarms because we generally look out for them and see that they have all the room they want.

President Baxter—I would say, it all depends upon circumstances and management by the bee-keeper. If you are raising extracted honey, and you know how to manage your bees, I guess you will not get any swarms. In my two apiaries this year I did not get any that I know of; in comb honey raising it would be different. I believe you can make conditions so that you can force them to swarm;

by feeding them enough and crowding them they undoubtedly will swarm, but under natural conditions and proper management they would very rarely swarm.

Mr. Diebold—It has been my experience that conditions of pasture have much to do with it, whether it be field or timber. In a timber country, the pasturage is really good; under those conditions, regardless of race or color, the common honey bee will swarm if they have not the room. The room they have I think, has largely to do about swarming; if confined to small hives and given no supers, they will swarm; that is my experience.

Mr. Pyles—Not always; I just told about a case at Mr. Duby's, at St. Anne; they were down to small patches of brood in the bottom of the frame not larger than your hand, and they didn't swarm. In 1900 as I remember it we had a fair crop of white clover honey that year.

My idea is that if the queen is able to occupy the entire brood nest, the entire hive body with brood, and they start to crowd her down, it can crowd her down and I don't think there is a particle of danger; there is no reason why they should swarm.

President Baxter—Those conditions are unnatural. You never saw an apiary under normal conditions crowded with honey gathered the same year that had gone down that way unless there was something wrong. What was it?

Mr. Pyles—American foul brood.

Mr. Coppin—Mr. Diebold said that, regardless of race or color, in good pasturage the bees will swarm if they have not the room. I find, with me, that the Carniolan bee will always swarm more than any other. Early in the spring, before I am expecting any swarming—it will be the Carniolan that will do the first swarming. We always have a pasturage of fruit bloom; and the Carniolans are liable to swarm then; the others won't.

Question—What can be done to secure a special apiary building at the Fair?

Mr. Kildow—Leave it with the Committee to find out; we could not discuss that here; we might discuss as to whether or not we need one.

Mr. Dadant—I was the one who put that question; my reason for it was that Minnesota has a special building. I had some correspondence with them and they told me they had a well-filled building and that it attracted a great deal of attention; that they extracted honey during the whole week, for six days, the bee-keepers of the state brought enough honey to keep the extractor busy.

That is education, both for the bee-keeper and for the consumer. A great many consumers do not know what extracted honey is; a great many people imagine extracted honey is adulterated honey. There is nothing better for the education of the people than running an extractor for those who are not acquainted with bee culture.

Minnesota has a special building at the Fair. Why cannot Illinois have one? We ought to be able to get one if Minnesota is. Our state is as rich and our State Fair can certainly afford as much as the state of Minnesota in the interest of bee culture.

Mr. Kildow—That is the information we want to get before this meeting; just such information as that, and I think we can get something in the way of a building, or get the rest of the space in the building we have been using.

President Baxter—This is an important question. I believe we had better hold this question over and discuss it more at length and probably appoint a committee to take any action in the matter that is necessary; it might be a good idea for some of us to have a talk with Mr. Davison and enthuse him a little and we may help along those lines.

We will stand adjourned until this afternoon. Adjourned until 1:30 p. m.

AFTERNOON SESSION.

Meeting convened at 1:30 o'clock November 29th, 1915.

President Baxter—The address by Doctor Phillips is the first number on the program this afternoon. We will defer that until later and have Mr. Kildow's report as State Foul Brood Inspector.

Fifth Annual Report of Inspector of Apiaries.

Date	No. Colonies	No. Apiaries Visited	No. Apiaries Diseased	No. Having A. F. B.	No. Having E. F. B.	No. Colonies Destroyed	No. Days	Expense	Incidental	Per Diem	Remarks
1914.											
Nov.	Treating A. F. B. and making reports						2			$ 8.00	Inspector
Nov.	State Convention at Springfield						2	$ 7.16		8.00	
Dec.	Bulletin and Northwestern Convention work						5	12.17	$ 1.00	20.00	
1915.											
Feb.	60	...	...	...	...	...	6	7.54	1.00	24.00	Inspector
March	....	...	....	...	...	...	4	5.41	.....	16.00	
April	497	22	4	4	...	...	18	42.82	2.35	72.00	Inspector
April	143	17	10	7	3	...	7	8.59	.....	28.00	Deputies
*May	514	30	6	6	...	9	22	48.73	12.07	88.00	Inspector
*May	934	88	26	12	14	...	22½	16.94	.....	90.00	Deputies
June	355	7	2	...	2	...	4	4.40	4.75	16.00	Inspector
*June	2179	201	80	34	46	17	51½	59.77	.....	206.00	Deputies
July	400	20	9	7	2	...	18	23.60	4.13	72.00	Inspector
July	Circular Letters and Envelopes						...	.....	14.50	.....	
July	1428	96	33	8	25	...	27	39.26	.....	108.00	Deputies
Aug.	782	31	11	10	1	...	18	49.10	3.62	72.00	Inspector
Aug.	Bulletins and Engravings						...	.....	62.00	.....	
Aug.	1435	106	35	22	13	...	38	60.49	.....	152.00	Deputies
†Sept.	Tri-State Inspectors' Convention and Northwestern Bee-Keepers' Convention						9	14.02	3.00	36.00	Inspector
Sept.	262	12	6	5	1	...	10	12.78	.....	40.00	Deputies
†Oct.	143	2	...	...	...	...	5	12.22	.....	20.00	Inspector
Oct.	Halftones, Etching and Retouching						...	.....	11.94	.....	
Oct.	Clasp Envelopes						...	.....	5.00	.....	
Oct.	72	5	5	...	...	...	2	.....	.....	8.00	Deputies
Total	9204	637	230	120	107	26	271	$425.01	$125.36	$1,084.00	$1,634.37

* Destroyed with owners' consent.
† Held up by injunction.

Mr. Kildow—The first of August I sent out circular letters to all bee-keepers having disease in their apiaries, asking them to report to me if they had cleaned up, and what method they had used. I got reports from 114; 107 of them stated they had cleaned up as far as they knew; five of them reported that they had some yet; two reported they did not know. There are a number of them of course who have not reported yet. Those I will make a special effort to see next year, and to see what they have done, and if they have not done anything I will see that they get busy.

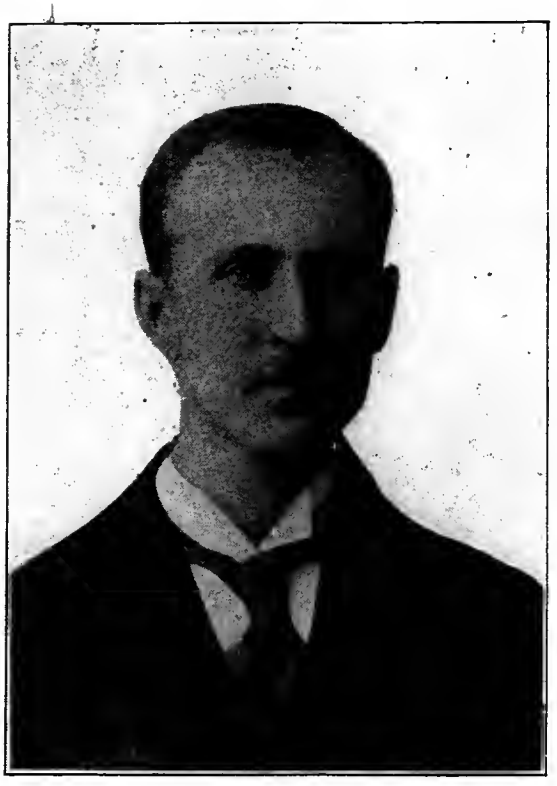
If it is not gotten rid of by the time I get around to them next year I will see that they attend to it. By sending out this circular letter and getting these reports, it gave me a very good idea of what they have done this year.

Mr. Pyles—Did you figure out what it cost per colony?

Mr. Kildow—I cannot figure that very well. A good deal of my time is spent looking after other things instead of going into the apiary inspecting, because there are so many other things I have to look after besides inspecting. You can tell what it would cost per colony from the expense.

Mr. Pyles—I figure it will cost 18 cents per colony.

Mr. Dadant—According to this that I have before me, which is last year's report, the number of colonies exam-



A. L. KILDOW,
State Foul Brood Inspector.

ined was 12,869. You are right, the total is $1,578.06; that is twelve cents per colony for all colonies examined.

President Baxter—What are your general conclusions as to the status of the disease in the state and the territory that has already been cleaned up, if any?

Mr. Kildow—I think one of my deputies from the east side will explain about his state there.

We have been going now for several years, and we find a vast improvement; in the territory where we have been only once, they have to learn about it, but where we have been for two or three years, going back and forth and watching them, they are cleaning up well, and unless they get very negligent again we will soon have that part of the territory all cleaned up.

President Baxter—It is decreasing.

Mr. Kildow—It is decreasing where we have been educating the people; this is not a thing that can be cleaned up in one or two years; it takes a period to do it.

President Baxter—Next year will probably be a good year to do it; you should have intelligent deputies to do the work and clean up as much as possible.

Mr. Kildow—It is hard to get a competent deputy, one who can afford to take the time, because he has to go out and neglect his business, that is, his own business. If the people around the state will tell where there is a good man I will appoint him; I can get his appointment by Civil Service.

President Baxter—They should be appointed in the immediate vicinity where the inspection work is to be done, if possible.

Mr. Kildow—A man who is capable of doing this work, as a rule, has an apiary of his own or some other business that will pay him a little better than that, and one who does not know about it is a poor one to put in the field.

I would like to have more inspectors to scatter out over the state. I will not appoint a man who is not good; it is only using money and getting no return.

Mr. Pyles—Do you make volunteer visits to these apiaries or do you go by invitation?

Mr. Kildow—Both. If I have an idea it is in a locality I go, and, if I get word from there, I send or go myself. I can go wherever I see fit in my own judgment. I will answer any questions I can and if you want any more light on anything I will try to explain it.

Mr. Diebold—What time of the year is the best time to clean bees to cure foul brood? I use the McEvoy treatment.

Mr. Kildow—That is a good treatment.

President Baxter—Mr. Diebold asks—What time of the year is best?

Mr. Diebold—What time of the year, and month?

Mr. Kildow—The best time to do it is when you find it.

Mr. Diebold—There must be honey flow coming in?

Mr. Kildow—Either that or you have to make an artificial one.

Mr. Diebold—An artificial one I should not think would be successful, and it is expensive.

Mr. Kildow—You have to be very careful about it. If you find your bees

diseased in the fore part of the season it is the best time; you have a longer season before you for them to build up in, but if it is bad at any other season you must begin immediately.

Mr. Diebold—The colonies were strong in the early spring and by the time the bees commenced to swarm on heartsease they were dwindled down to little or nothing; I let them go through drought without feeding.

Mr. Kildow—Most bee-keepers didn't feed the bees and keep them strong this year.

Mr. Mandle—Is there any certain territory the deputy is supposed to cover?

Mr. Kildow—Not exactly; he is supposed to go wherever I send him.

Mr. Mandle—You spoke about the difficulty of appointing good deputies because they would not care to take the time to inspect other apiaries. You can nearly always find somebody—some slipshod fellow in the community—who has box hives who is liable to have the disease. It seems to me it would be a good thing and would stand the bee-keeper in hand who had a good apiary if he could get somebody to go in there and clean up these slipshod fellows, or if he could be himself appointed long enough to have the authority. If I suspect a bee-keeper in my neighborhood has the disease, if I had the authority, I would like to go in and clean it up.

Mr. Kildow—I would like to get a deputy as near as I can to the place where the disease is. Here is another drawback; your neighbor oftentimes hates to mind his next door neighbor and a stranger will do much better than he will.

Mr. Mandle—We had an old fogy bee-keeper in our town; he said he had forgotten more than all the bee-keepers in the country ever knew and he didn't believe what was written about it. Just such a fellow as that is liable to have the disease.

Mr. Klidow—A stranger he will listen to but he thinks he knows more than his neighbor and hates to have his neighbor tell him what to do. Still others we find have a good deal of common sense and want you to come.

Mr. Mandle—I understand the law is that a man who has an apiary of that kind is compelled to undergo inspection in case it is necessary.

Mr. Kildow—Yes. I have to send the names of my deputies in to the Civil Service and it is up to them whether they confirm my appointments. Sometimes I have the privilege of appointing an emergency deputy, but that takes a little red tape and I don't like to do it very often, not more often than I can help.

Mr. Bennett—How do you inspect them?

Mr. Kildow—Turn them upside down and take the comb out.

Mr. Mandle—I think I will give you an invitation to come down to my neighborhood next summer.

Mr. Dadant—I had a little experience in regard to Deputy inspection work, or rather my oldest son had. Mr. Kildow appointed him as Deputy Inspector in our neighborhood and he did very much as Mr. Kildow has suggested: He didn't have the time, and when he found the disease in the neighborhood he found the time because it was, as some people say, a ground hog case. We must destroy it or catch it ourselves.

We got some ourselves and destroyed it and it came back because it was in the neighborhood.

If a man can be appointed Deputy Inspector in neighborhoods, whose business is of importance to them, those men can be depended upon to hunt it in the neighborhood and to convince people whom they visit who have the disease of the necessity of destroying it, simply by asking the neighbor to allow you to look at his bees and calling attention to the rotten brood. No man who has any sense at all, no matter whether he knows everything (and he is sure to find out he didn't know as much as he thought he did)—if he finds he has the disease, but what will be anxious to have it cleaned up, as anxious as you are, unless they are fools. As a rule among bee-keepers we have sensible men.

The men appointed should be men who are interested in seeing the disease disappear in their neighborhood.

Mr. Kildow—We have to go at our neighbors easily, so they will not take offense.

President Baxter—That depends upon circumstances. We had a case, you will probably remember, in our neigh-

borhood, a half mile from me a man had a half dozen colonies of bees and I detected foul brood, American, in the worst form. I sent for Mr. Kildow; right away he came there and examined them and found they were very bad; he left written instructions according to law; told him what to do, and I didn't rest until I knew it was done. I went back there in ten days and found that instead of following instructions he had taken all this dead brood and squeezed it up in a ball and put it in the fork of a peach tree. I telegraphed the Foul Brood Inspector to come at once; he came and we went in there and destroyed every colony he had and threatened to put him through.

There is a $50 fine for that, and he got scared and never repeated it; it is good to notify them beforehand so as not to run that risk. Fortunately, foul brood did not spread from that. If it had been a season of drought we would have been up against it. He did this for spite work.

Mr. Mandle—This man I have in mind, I believe if he knew he had foul brood and could spread it and give us other fellows a good dose of it he would do it.

Mr. Diebold—Some years ago, I don't know how long, Mr. Kildow came up to my place. I had just cleaned up the best I knew how. He said: "How about your neighbors?" I said to him that "my neighbor down here has seven or eight or nine colonies." Mr. Kildow dent down there and I asked for the man; his wife said he was out of town; I told her the Foul Brood Inspector was there and would like to look at the bees; she said her husband objected.

I talked to her and told her we would like to have Mr. Kildow inspect one hive, and she finally consented and we found infection.

Mr. Pyles—I think Mr. Kildow will bear me in this statement, when I say that most of the inspection work done in our immediate vicinity was done long before we got a dollar for inspection work; we did that work for ourselves, and every bee-keeper who is interested in his community, if he has influence with his neighbors, will be able to do as much and more work without the appointment.

If you send a man in his own locality to inspect his neighbor's bees and he goes out showing his teeth, he will have to show his teeth all the way through; he does not dare to make trouble because they can get even with him, and they will do it. If a man is a stranger, some one they do not know, he will be able to go in and get along peacefully. They can't get even with him and it is his business to get along peaceably or he will lose his job. We cannot get into trouble everywhere we go or Mr. Kildow would not appoint us. It is ours and Mr. Kildow's business to get along. A man working in his community will do better without having authority as deputy than he will with it, among his neighbors.

President Baxter—That point is well taken in most instances—sometimes you have got to show your power and use it.

Mr. Hawkins—We had a good deal of foul brood up where I live this spring. The Inspector came up there and inspected several apiaries and found the disease, and I personally helped about a half dozen different bee-keepers that were close enough to me, so that my bees could rob, free of charge, and was glad to do it. I think every bee-keeper should be willing to turn out and help his neighbor clean up foul brood. The fellow who cannot get out and help a neighbor should not have any bees.

Those men were glad enough to clean up as soon as they found out something was wrong, and they all did it as soon as they learned how.

It was as much to my advantage to have them clean up as their own.

It is just as Mr. Kildow says—there are times when it takes authority to do anything.

We had one man who was ill at the time the inspection was made; he was taken down south, to Hot Springs, Arkansas.

I went to his place two or three different times and took care of the diseased colonies, and did all kinds of work around there. He had been good to me in the past, and I did not expect any pay—and now within the last couple of weeks, since he has returned home, he has accused me of being in conspiracy with the Foul Brood Inspector, to beat him out of his bees and take honey off his place.

I think that is a strong point against a bee-keeper doing inspection work in his own neighborhood. A stranger can go in, with authority, and do more good. He is not without honor except in his own country.

Mr. Dadant—On this question, I must remind you that a committee was appointed this morning to pass resolutions to present to the legislature; I have a sketch of it which we will have typewritten if it is adopted:

A resolution passed unanimously by the Illinois State Bee-Keepers' Association at the annual meeting of November 29th, 1915.

To the Honorable, the Senate and House of Representatives of the State of Illinois:

Be it Resolved, By the Illinois State Bee-Keepers' Association, an organization incorporated February 26, 1891, under the laws of Illinois, and recognized officially by the State of Illinois, that we energetically assert the indispensable need of a continuance of the appropriation of Two Thousand Dollars for the State Inspection of Apiaries, necessary for the services of the Inspector.

The above named Association respectfully represents to the Illinois Legislature that there has been a decrease in the diseases of bees in the past few years, owing to inspection and the education imparted to the farmer bee-keeper on this subject. But this needs to be continued, to entirely wipe out the contagious diseases, which would be very fatal to our industry in the state, if allowed to spread.

Respectfully submitted,
EMIL J. BAXTER,
JAS. A. STONE,
Secretary.

A member—I move the adoption of this resolution.

Motion seconded.

President Baxter—Are you ready for the question?

Mr. Kildow—The office is already created; all we want is the appropriation—continued appropriation.

Mr. Dadant—Then it should say—A continuance of the appropriation for the office. We will make that correction.

President Baxter—You have heard the motion: Unless I hear any opposition we will consider it passed unanimously. It is so passed. All in favor of the motion arise.

The response was unanimous.

Mr. Stone—We have forgotten our badges, Mr. President; we will have them now.

President Baxter—Dr. Phillips still not being here, we will take up the essay—a paper by Mrs. A. L. Kildow.

Mrs. Kildow—My paper has been somewhat discussed in the previous talks; perhaps there will be something more you will wish to say when I get through. My subject:

THOUGHTS RELATIVE TO BEE-KEEPERS AND INSPECTORS.

The thoughts which I will now present may not be applicable to the members of this Association, for thoughtless, indifferent bee-keepers are just as indifferent about attending field meets and associations as they are about cleaning up their apiaries.

We have but limited means in helping these, as the bee periodicals have little attraction for them. But this paper was prompted by the thought that we should all understand the conditions as the Inspectors find them.

Hence, from observation and the reading of the correspondence of bee-keepers, I concluded that in handling bees and bee diseases "Knowledge is Power," and, furthermore, that no bee-keeper lives to himself. He is either a help or a hindrance to others.

In regard to foul brood, he is either a help or a hindrance to retaining it in his own apiary.

The first thing to be considered in regard to this disease is the **man** or bee-keeper himself; if he is vigilant, persistent, and painstaking, he certainly is a hindrance to the spread of the disease, and will co-operate with the Inspector, follow out instructions, in a careful and systematic way.

On the other hand, if the bee-keeper is a help to spread the disease, he will be indifferent, as some of the records show.

After the Inspector has visited his yard, mapped out a line of treatment, cautioned about the scattering of diseased combs, honey, et cetera, he will, perhaps, destroy the worst colony, but leave a hive, where the bees have died,

standing in the yard for other bees to clean out, but in reality it is left to spread disease. In some cases old combs have been left scattered around until the Inspector made another visit and told him he must be more thorough and careful in cleaning up.

Then still another visit must be made to see that it was done. Thus one bee-keeper is claiming time of the Inspector for work he himself should do.

And these are the ones that are dissatisfied about not being rid of the disease and think the Inspector is at fault.

I will give you a quotation from a letter this fall:

"You will remember I said there was foul brood out in the country at Mr. M—— place. Well, I have forgotten what you advised. You told me how you would handle them but I didn't pay attention enough to recall it."

In this case the diseased apiary did not belong to the writer but from their writing I would say there are many bee-keepers in the state just that indifferent concerning their own apiaries.

But in contrast to this we have the bee-keeper who is in earnest, is fair to himself and his neighbor bee-keepers, and is on the watch, and when the Inspector visits his yard he is all attention and ready to follow out instructions.

A quotation from a letter written the Inspector by one of the deputies will sustain this statement:

"I have been inspecting in Vermilion County, around Westville, Danville, Georgetown, etc. Your work there two and three years ago seems to have borne good fruit. The men you had visited knew about disease, and I could find no trace of it in their apiaries."

The work of the Inspector and the bee-keepers is very closely connected in eradicating foul brood.

The Inspector should have knowledge concerning the bees and bee diseases, as well as be able to study human nature. For they certainly should know how to handle men as well as bees, if they make a success of the work. Again, they must be honest and considerate and work for the best interest of the bee industry; should be willing to give instructions and advice as to the best methods of treatment and even show by example how to proceed in cases of cleaning up diseased colonies.

In most cases where the bee-keeper has faithfully co-operated with the Inspectors in the endeavor to eradicate the disease, the result has been success.

But from reports from the various parts of the state and in answer to questions sent out, we find that, on account of indifference and lack of knowledge of the bee-keepers, the Inspectors must keep close watch of affected districts.

Now here is where the bee-keeper should get in his work.

After having the disease pointed out to him he should give attention to it, follow out instructions in treating; be careful and painstaking; keep tab of all colonies affected and be ready to report to the Inspector what method of treatment was used and the present condition of his apiary.

Now, if we give the proper study to the bee periodicals and co-operate with the Inspectors and men versed in bee diseases, we may obtain knowledge so that every careful and intelligent bee-keeper may be able to detect and clean up foul brood himself without expecting the Inspector to call at his place every month or six weeks.

If every bee-keeper in the state of Illinois took the precaution to look after his own apiary and do thorough work in it, the disease of foul brood would soon be a thing of the past.

MRS. A. L. KILDOW.

President Baxter—This paper, or the thoughts expressed in it, have been discussed already. Now if there is any further discussion we would be pleased to hear it.

Mr. Kildow—It seems to me that these papers that are read ought to be discussed, because that is where we get our knowledge in the bee business; and, if there is any point that comes up that it is desired be explained, don't be afraid to ask about it; it may be some little thing that some one will give that will help us, and we ought to discuss these papers thoroughly.

President Baxter—This paper has already been discussed under your report, so I don't think very much more can be said.

Mr. Dadant—Is there something Mr. Kildow would wish to bring out? If so he might bring it up now. Mr. President, we have a rport of the Auditing Committee which can be done away with very shortly.

President Baxter—Read it.

Mr. Dadant—"The Auditing Committee of the Illinois State Bee-Keepers' Association have examined the Secretary and Treasurer's books and find same correst.

Springfield, Ill., Nobember 29, 1915.
(Signed) C. P. DADANT,
A. C. BAXTER."

President Baxter—You have heard the report of your Committee, what will you do with it?

A member—I move that the report of the Committee be adopted and the Committee be discharged.

Seconded and carried and so ordered.

AFTERNOON SESSION.

Meeting convened at 1:30 p. m., November 29th.

President Baxter—We have a paper, this afternoon, of Mr. C. F. Bender, of Newman, Ill. Will Mrs. Kildow read this paper?

The Subject: The Prevention of Disease Among Bees.

Mrs. Kildow read paper, as follows:

THE PREVENTION OF DISEASE AMONG BEES.

(By Mr. C. F. Bender, Newman, Ill.)

Strictly speaking, all our efforts in treating diseased bees are directed toward prevention—we do not doctor sick larvae, but try to keep the trouble from spreading to those that are well. In any diseased colony there are many larvae that are apparently healthy, and that will mature into healthy bees. So, in any diseased apiary, there are some colonies that remain healthy even when exposed to the worst conditions. This power of resisting infection is called immunity, and exists to some extent in all living creatures. It is not easy to say of what this immunity consists, or how it is produced. It helps us somewhat to know that it may be inherited.

This natural immunity, in its various degrees, is our sheet anchor in the treatment of foul brood. As it is impossible to destroy all the germs of disease, there must be enough vigor in the bees to render harmless those that are left.

Our efforts toward prevention fall naturally under two heads: (1) the breeding of resistant stock, and (2) the removal of infected material. The second may be divided into (a) the removal of diseased matter from the hives, and (b) the removal of infected colonies from the apiary. In the long run I think that the breeding of hardy stock will prove to be the most important. But the process will be a slow one, and we are naturally more interested in producing honey for ourselves than in handing down a germ proof stock to our grand-children.

So we come to the second factor in prevention, the removal of diseased material. Quarantine, the removal of sick colonies to a location where there are no healthy bees, is highly important if one has many colonies to treat. They must be removed at night or when no bees are flying, and to such a distance that no bees will return to the old stand. If one has several apiaries it is easy to select the one that has fewest healthy colonies, remove these to other yards, and start a quarantine hospital. It is more convenient in handling sick colonies to have this hospital at the home yard, as we expect to treat these colonies by dequeening or shaking on foundation, or both, but after they have been removed from the neighborhood of healthy bees. It has been customary to consider robbing as the chief factor in the spread of foul brood; but I think that ninety per cent are started by bees entering the wrong hives, probably nurse bees when taking their first flight. So it is important to have as much space as possible between hives, to have several different colors, and to face them in different directions.

In deciding whether to remove diseased combs from the hives, it is necessary to decide first what disease you are treating. If you have American foul brood, you must remove all combs and burn them; if the case is a bad one, you should burn bees and hive as well. But, with the form which we call European, the dequeening plan is far better, not only because it saves combs and stores, but because the cure seems complete and permanet, which is not always the case with the shaken swarm.

It is human nature to take chances.

I advise you not to take a chance in treating diseased bees, unless your experience has been a long one. One, who is perhaps our greatest living bee man, tells us that he finds ten days of queenlessness sufficient in treating European foul brood, or even putting the diseased combs over an excluder to hatch out. I say unto you, he has not European foul brood, as it exists elsewhere in the state. From the removal of the queen until the new queen begins to lay, nothing less than three weeks is safe, in bad cases. If the combs are not clean and sweet at the end of three weeks it is best to shake the colony on foundation, requeen, and feed. The combination of dequeening and shaking has not been emphasized enough. If bees are kept queenless ten or twelve days before shaking, the chance of a cure is much increased, even with American foul brood.

The short space of this paper does not allow a discussion of the details of treatment, of diagnosis, of mixed epidemics where the nature of the disease is doubtful. You can get a free diagnosis and a pamphlet giving details of treatment, either from your state Inspector or from Dr. Phillips at Washington. I have only tried to supplement these by outlining a plan of management that long experience has proven to be good.

C. F. BENDER.

President Baxter—The paper is now open for discussion. Are there any remarks? This paper is a good one; there are some good things in it; some good advice.

Mr. Dadant—Who is the writer of it, Mr. President?

President Baxter—Mr. C. F. Bender, of Newman, Ill.

President Baxter—The next number will be a paper by Mr. Kennith Hawkins, of Plainfield, Ill.

Mr. Hawkins—In giving this paper, I expect it to bring out some discussion. It is rather an original plan and in coming here and giving it I don't want you bee-keepers to get the idea that a young fellow like I am is trying to put anything over on you. But it is a fact, as all of you know who have bought queens—there are some breeders who are selling queens who do not do much to give you value received, and even some who sell queens who do not give value received who do not seem anxious to settle the matter. Some of the bee-keepers in this country have gone so far in that direction they have been refused further advertising in some of the bee journals; I noticed it to be the case in Gleanings; don't know whether it has come to that with Mr. Dadant or not.

A PROPOSITION TO INSURE GOOD QUEENS TO BUYERS.

Kennith E. Hawkins, Plainfield, Ill.

Every buyer of queen bees has the right to receive full value to the best of the ability of the queen breeder, when he buys a queen. This is because every purchaser has the right to get value received. Because some unscrupulous queen breeders have foisted unfit queens on the buying public, I submit the following proposition to the 1915 meeting of the Illinois State Bee-Keepers' Association with the suggestion that it be submitted to the National Association.

During the past year several queen breeders in various parts of the country have been refused the privilege of advertising in the columns of some of our bee journals because they have been found unreliable. They send out unfit queens, refuse to back up their guarantee and proceed in so high handed a manner that they are not allowed to advertise now. One of the editors of an American Bee Journal recently visited the breeding yard of one of this country's big queen breeders and found this man cutting out celss from any colony where he found them, without considering as to the impulse they had been reared under, and using them to produce queens in his mating nuclei, for sale to American bee-keepers. These two frauds cited will give you an idea of why you get fooled on your orders at times and can get no satisfaction. Also they give you the reason for the existence of some supervising medium, which will insure proper methods in rearing queens for you.

Why not have the National Bee-Keepers' Association become supervisors of the methods of queen breeders in America? Each queen breeder could be asked to submit to such a board a statement sworn to before a Notary Public, as to the method he uses in breeding queens, and also that he will not use certain methods which

said supervision body may beforehand announce as unsatisfactory: for instance, the cutting of cells for mating purposes wherever found, whether in the poorest or best colony.

Every breeder of queen bees in America who would agree to avoid such unsatisfactory methods as the supervising board might designate, and who would, under a sworn statement, submit a satisfactory outline of the methods used in raising his queens should be declared by this body a reliable breeder.

Every such breeder who will so comply with the regulations should be issued a small mark of some kind which can be used in his advertising and which will indicate his standing. Such a mark as I mean is used in Burpee's seed catalogue to designate the kind of tomato or cabbage or any one seed which they recommend as being the earliest of all seeds of one sort. This suggestion is merely exemplary, and any method could be adopted which would make the indication plain enough to the buyer who might see the breeder's advertisement, that the breeder was declared reliable.

Now, the cost would be only 25 cents for a Notary's work and maybe a small additional cost to cover the expense incurred by the National. This expense would be so small that it would prohibit no one from receiving its benefits. The application for such supervision could remain optional with the breeder, and the fact that any breeder did not elect to apply for and advertise that he was so inspected by the National would not necessarily work against him. But such queen breeders as did elect to apply for such National supervision, and who so advertised, would have the moral benefit of it and it would be an insurance of methods to the buyer. The fact that the plans submitted are under oath would make violation of the oath perjury, which is punishable. Any one breeder about whom may complaints were received, and who had sent in such a sworn statement, could easily be inspected by State Inspectors connecting with the National, and if found to be violating his oath could be punished in a manner to insure adherence to the oath by breeders in the future.

If this plan, which has received the commendation of at least one bee editor and which is now before the National Officers, seems wise to you, some one may second my motion to submit the plan to the National with our recommendations.

Mr. Dadant—Mr. President, I can see the purpose of the paper but my experience in queen breeding, which was in the long ago, does not induce me to support that. Now I suppose you all know I made comb foundations for years—we used to raise queens for sale, and, when I came to Bee-Keepers' Conventions and met a man who had had some of our queens, I was afraid he would say: "The queen was too small; too dark; not prolific," or a thousand other things. Of course we had a great many people who were satisfied but we had a great many who were dissatisfied. I never tried any harder to make good comb foundation than we tried to raise good queens.

When I meet a man who has used our foundation, I expect him to say: "It is the best in the world," and he always says it.

There is the difference, gentlemen, between making foundation and raising queens. No matter how hard you try to raise good queens you are going to give dissatisfaction to some one; and, if we have a few bad queens, we will make enemies, that is all.

There is only one way in which we can make sure of a good breeder; simply to try to find what you want and, when you find a good man, stay with him, but to have a breeder go before an Association and make oath; why the worst men are the ones to make an oath and swear to a falsity, and in the meantime we are giving recommendation to bad men.

Mr. Coppin—I think a number buy queens and introduce them without getting the old queen killed or without introducing them right; the result is, the queen they introduce is killed and they simply have the same stock left on their hands and accuse the queen breeder of having sold a queen that is no good. It is a pretty hard matter to remedy the dissatisfaction all round.

On the other hand: Take the matter of foul brood. A German who lives six miles from me came to me telling me he had gotten bees from some one in Cincinnati and found they were full of foul brood. He said he had written

to him and got no satisfaction. I said, "If he has done that I will write to Mr. Muth about it, I have done business with him." So I wrote to him about it and he answered that he was satisfied there was no such thing as any diseased bees sent from this yard. I met this German and told him the reply I had received. He said to me: "I saved it and I will bring it and show it to you." So, he finally brought the combs to my house one day when I was not in. My wife was there. He said: Here it is, Mrs. Coppin; I have brought those foul brood combs to show you, those I got from Cincinnati. She looked at it and said: "There is no foul brood in this." He said: "What is it? It is half full of something." She said: "It is pollen. It is as nice clean brood comb as I ever saw; you simply have been deceived; it is pollen."

So you see how parties get blamed for things they are not guilty of. He had been transferring a lot of bees himself for years for foul brood and probably there was not a bit in his place; at the same time he could be finding fault all the time.

Mr. Dadant—What Mr. Coppin has just said puts me in mind of one of the troubles that people have who buy queens. A great many introduce queens and don't look any further; the queen is killed and another one raised from their own bees and they never know they have not the queen they bought; I know it to be a fact in a great many instances.

One of the great men of the east who claims to introduce queens by the smoke method without failure was said never to have looked into the hive after he introduced a queen and that is why he succeeded so well.

Mr. Mandle—What is the difference between three banded and leather color?

Mr. Dadant—A leather color must be three banded. The three banded may not be leather color; it may be light yellow. In the Italian bee the bands may be more transparent.

Mr. Mandle—You see every once in a while—advertised by a queen raiser—three banded or leather color; I have wondered several times what the difference was.

Mr. Dadant—That is a misnomer.

President Baxter—There may be five banders. The difference between leather color and light yellow is this: In the leather color, the part of the body between the bands is dark, a leatherish color, while in the five banded it is generally a very bright yellow; it looks more like gold.

Mr. Mandle—I have noticed in my bees, every once in a while they have a queen that shows hardluy any rings at all.

President Baxter—Be careful about this—the bright yellow color bees and the five banders; you take the three banders and the leather color, nine times out of ten you will have much better bees.

Light yellow bees as a rule have been bred for color, and as a rule they are very cross; they have not the good qualities; the Cyprians are good workers and prolific but they are hornets otherwise.

Mr. Mandle—I have bees from a southern breeder that are advertised Goldens.

President Baxter—You ought to test them for several years; get one that will last; one that will do the business from year to year and give the best results when there is drought of honey.

I have had some bees that all I had to do was to look in the front of the hives to see how they looked, and I knew whether they had a supply enough for the winter or not; that is just the difference there is between bees.

I have some as yellow as gold I got this summer and I had some hopes they would be fine, but this fall they don't show up; some of them had to be fed.

I have been dealing with several queen breeders, some in Texas, some in Louisiana, and Tennessee, and so on, and I know the ones I want to stay with and those that I don't want to have anything more to do with.

Mr. Diebold—Speaking about queen breeders; I sent to Mr. J. P. H. Brown, of Augusta, Ga., for queens—bright yellow bees, nice looking, but the crossest I ever saw; Italians are generally supposed to be the mildest bees—but those were crosser than the ordinary black bee; whether or not they were Italians, I don't know, but they were the crossest bees—

President Baxter—The pure Italian,

one of the chief characteristics is gentleness.

Mr. Mandle—My position is the reverse; the yellow stock is the gentlest.

Mr. Hinzel—I have good yellow bees and I don't think Mr. Kildow was ever stung when at my house.

Mr. Hawkins—I am not getting up here to defend Goldens, because I like three banded much better, but I have been fortunate in one or two breeders of Goldens. When you want to see something nice—open them at night even—without the use of smoke, and never be stung. I don't doubt that there are a lot of Goldens bred for color alone but some Goldens in this country will compare favorably with three banded.

Mr. Stone—I have colonies of the Golden; I have gone to them when you could handle the whole hive and it seemed like not a bee would fly from the comb and they would let you examine all you wanted to and would make you no trouble; at another time I have gone to the same hive and they would not let me touch them without they would be cross.

When you are in a hurry, you had better stay away from your bees. When you have plenty of time to go at them just right and cautiously, they are quite different.

President Baxter—I want a bee I can handle at all times. Life is too short to fight with bees, and one of the first characteristics of bees for me must be gentleness. I get rid of bees that are not gentle, as quick as I can. Gentleness and prolificacy and results are what count.

Mr. Bennett—If I can get a bee that will make honey, I will get the honey all right.

Mr. Hawkins—I think Dr. Miller has the crossest strain of bees that are in the United States, and yet he gets as good a crop of honey as anybody around here and gets it in poor seasons, and he has often stated in journals that he doesn't go after gentleness in bees.

Mr. Dadant—I think there is a great deal in that, and I think a good standard of bees can be made cross by handling them wrong.

I had a good friend at Keokuk, Ia., living on the Bluff. I told him my neighbors were complaining that his bees stung them. He said—"They never stung me. They are very gentle."

I went to visit him; he opened his hives without smoke; he was one of that kind of men the bees don't sting. I am not.

He opened the hive without smoke and the bees paid no attention to him, but one or two of the bees came from the hive and for me.

I said to him—"If you will smoke your bees you will not have complaint from your neighbors. The bees do not sting you while you are handling them but they will sting your neighbors."

You know there are men who are practically immune from the way they go at the bees, but if a neighbor came around they would sting him at once.

Another instance: When I went to Italy two years ago, at the first apiary I visited the man handled his bees without smoke. We went to the apiary; he had beautiful bees, such Italians as I like, three banded, not too bright, although he was seeking for bright bees to show me because he knew Americans liked bright bees.

He opened the hives without smoke; they got angry and did not sting him but they went for us, and we had to get a smoker and tame them down.

I traveled for three weeks in Italy and visited apiary after apiary; we never had a veil on but we always gave them a little smoke, and they were as gentle as could be, such as the Italian bees we have here if you handle the combs right.

In regard to the three banded let it be well understood: The first band next to the thorax is one of the three; then the next two broader bands; but if you will fill one of those bees with honey, give it all it can carry, you will notice other bands below those that are yellow; the only difference between those bees and the Golden is that dark band next to the yellow is narrower or wider according to breed. The leather colored is just simply a little less brighter than the golden yellow; that is done by breeding.

If you breed only for color you are going to have inferior bees. The great point is to breed for quality—for results first and secondly for color. If you have two colonies, one dark and one light, any they are both equally good, breed from the light.

Mr. Bowen—Mr. Dadant says there are some men whom the bees won't sting. If I should run across a man of that kind I think he would be better calculated for a wooden Indian in front of a cigar store; I never saw a man that the bees would not sting.

Now in regard to the sting of bees and what was stated about going at them in a nervous way and that would make them sting you: I know I had occasion to go to one of my good yellow bees; they did fine work and lots of it. If I had a friend I wanted to show something extra nice I would show him those bees. I went to them at this time; I wanted to do some work and was in a hurry and they fought like tigers; I went back an hour after that and they never paid any attention to me. I worked among the same bees.

Mr. Dadant—They were filled with honey, perhaps.

Mr. Bowen—Last summer I undertook to do a little work for a neighbor. I drove a team up in front of his house and took out a few extracting frames of honey; I smoked them first; I thought they were very docile; before I got the second frame out, they came out like a swarm of hornets. I tried to protect myself. I hardly ever work with gloves, but I put on gloves; they not only drove me out of the yard but went after my horses and tore them away from the fence and followed me for two hundred yards.

That man said he never knew those bees to get cross.

It makes a difference if you are used to handling the same bees. There is something about bees getting acquainted.

My horses pay no attention to the bees, but a stranger's horse going in there makes a difference.

Mr. Pyles—There have been a great many things said here and I think some of them should be corrected. I have been inspecting this year and only once have I put on a veil.

I can't work easily or slowly and I can't take time to let them fill themselves up with honey before I open the hives, but I do take time to give them a puff or two of smoke and get them busy and then I go on with my work; only once this year did I have to put on a veil. A man took me out in his apiary; I said I did not need a veil, but I found I did. The bees were very cross.

They told me that boys had been in the orchard stealing cherries and apples and he had kept the bees in the orchard most of the time.

I think if no one else would come into the apiary I have never seen a colony of bees I could not handle without a veil at any season when it is warm enough to open the hives; that is when you are not doing damage to the hives by opening them. I would not care to go in the winter time, but I mean any time of the year when it is fit to open the hives.

Some one said something about his bees having sometimes one and two and sometimes three bands in the same hive. Maybe they were working for color.

One sure way of knowing your bees are full blood is they must have three bands; when you find a colony of bees that has not got three yellow bands, make up your mind they are hybrids.

I think the best colony of bees I have seen this year were Golden Italians.

If we want to produce queens that give good results, you cannot be sure when you are buying from somewhere else you are getting any better stock than in your own apiary.

You must commence with your own stock and you can have as gentle bees as you want if you breed that way; you can have as cross if you breed that way; you can have just as good workers as any other man if you breed that way; you can have some of all these things if you try.

Some one said Dr. Miller's bees were cross. Dr. Miller is breeding now, I understand, from good Italians; his bees are always good Italian bees and not so cross as they used to be. He said his bees used to be hornets and they would follow him forty yards to get to sting him.

President Baxter—I agree with the last statement of Mr. Pyles but not with the other. I have been working with bees for thirty-eight years. I had some Cyprian queens that Mr. Dadant imported from the Isle of Cyprus, and had experience with them thirty or more years ago. When I went to open one of those colonies in the morning, and I am careful in working with bees —I know how to work with them— those bees would follow me around the place all day, no matter how far I

was from the house some of those bees would follow me and even to the door of the house. I had just such results as that lately from some bees from queens I got from certain parties.

Mr. Pyles says, and I believe this is so, the best way for a man who has time to breed his own queens from his stock if you have something good to begin with, and always select from pure Italian stock and breed for results every time and let color be a second consideration; and you want results in dollars. You want results in facilitating the handling of honey also, for that means money; if you will do that you will soon have an apiary you can be proud of. I am sorry I have not done that right along instead of buying bees.

Mr. Hawkins—I would like to say a word about bees being cross at one time and gentle at others. I never saw a colony of bees I wanted to work with without a veil on. Bees never make any attempt to sting me in working day after day; but I want a veil on.

The first time I ever saw Mr. Pyles I thought he was crazy. He had a little dust cap on inspecting bees. I waited every minute expecting him to get stung; he never got one. I could not walk within half a mile of those bees without getting stung. I would not want to try it, anyway.

On the other hand, oftentimes we have apiaries away from home and we do not know what happens to them while we are gone. I have such an apiary where the bees were mean and cross a good many times when I worked with them; I could not see any reason for it.

Some time after that when some boys moved away from there I found out from a boy who worked for a man occasionally during the summer they used to go out to see the bees and if they did not fly enough for them to see they would knock the hives to see them go out, yet when I got there I did not know what had happened and could not tell why they were so cross.

Mr. Diebold—It has been my experience that I want a smoker and a veil; smoker first and then a veil, and then I feel perfectly safe.

Mr. Coppin—I want a smoker, same as the gentleman here, and I don't want any veil.

On the other hand, I am not bee-proof; I get stung.

On the other hand, if I get stung I generally mark that hive. If I get stung again several times in a short period of time, my wife often asks me what hive those bees were in that stung me; and I tell her, such and such a hive, and she says: "Let us go out and kill that queen. It is not worth keeping." So we generally pick out the queens of such hives as that and replace them with something that is more gentle. I don't like to use a veil and don't do it; I don't put on a veil more than once a year.

Mr. Dadant—You all know I was raised by a man who was better known in bee-keeping than I; I have seen my father working bare-headed among the bees, and when I turned the corner and looked at them they would come after me; I didn't get trained until I was 18. When my father was sick, and the bees were gathering honey, I got up my courage and went to work with the bees and managed to get along. I got lots of stings, but I can handle them with or without a veil; I prefer to have a veil handy; you don't know what minute you may make a miss-move and crush a few bees and then they will get angry.

I am satisfied that there are men who can handle bees and not be stung, while those looking on will be.

A gentleman here took exception to my stating that some people the bees didn't sting; I didn't mean that; bees sting everybody but there are men that bees will sting very much less than others. Of course bees are quieter at times, and are very much easier to handle in harvest time.

It is bad to handle them in stormy time and when the weather is cold, early in the morning or late at night—but there is no doubt there are differences in men in handling bees just as well as in bees.

Mr. Stone—Don't you believe the bees learn to know when you have a veil on?

Mr. Dadant—They don't learn very much.

Mr. Stone—I put a veil in my hat, all ready to let down. Sometimes I go out and a number of bees will follow me; I put a veil on and they will stay away from me and maybe they will go and sting somebody out around the house, but they can't get at me.

Mr. Dadant—The reason you are

safer is because you feel safer; you are more self assured.

Mr. Stone—My hands, they sting them every chance they get, when I go after them with my veil ready to put on. My grand-daughter was sitting on a hive; I kept warning her she had better get away; she sat there with her legs bare up to her knee except stockings; I said: "The bees will get after you;" pretty soon one tried to crawl in her ear; it stung her pretty badly.

Mr. Kildow—I am one of those fellows the bees hardly ever sting. It depends on who handles the bees, how they are handled and the conditions around. I don't want some one to prepare an apiary for me to go to because I will probably get stung.

I found a place in Peoria where I believe the bees were fixed for my coming, because I everlastingly got it. I had a veil off at first but the fellow persuaded me to put it on, and I didn't take much persuasion.

As a rule, bees hardly ever sting me if I can have the handling of the apiary; it is summed up in this: The way you handle them and the time, I think, more than anything else.

President Baxter—We will close this now——

Mr. Dadant—I would suggest we take up the matter of the building at the State Fair.

President Baxter—We have one essay, "After-Thoughts of the Hamilton and Keokuk Meets," by Mr. Pyles.

AFTER-THOUGHTS OF THE HAMILTON-KEOKUK MEETS.

(By Mr. I. E. Pyles.)

I suppose that some may think this a queer subject for a paper to be read at a Convention of this kind, but, be that as it may, I think it will bear a little thought and perhaps cause a little discussion, and, after all, that is the desire of the writer.

Of course there has been a writeup of the meets in the two leading bee journals but such writeups are usually done for the sole purpose of handing bouquets to some one. Such need not be my aim.

I will say that the meet at the Dadant yard and the home at night was conducted in a very creditable manner, although some of the teaching I don't think will bear the light of day.

I think, however, the most space should be given to the Keokuk plan.

It had been my idea that a Convention should study, discuss and bring out that kind of information that most interests that body of people meeting, whether it be a farmers' institute or convention. Then the discussion is taken up and carried along lines that interest the farmer, and at Medical Conventions the study of disease and the best way to treat the same is the subject matter for discussion.

At a Bee-Keepers' Convention the study of bees, their care, the manipulation of hives and fixtures, the preparation for and securing of the crop of honey and, last but not least, the marketing of the finished product, are and should be the one theme.

What, then, shall we say of a meeting of bee Inspectors? Should they not be along lines of inspection, such as the proper diagnosis and treatment of disease, the knowledge of handling bees and, last but not least, the handling of the bee-keeper? Such, however, was not the case in instance. I, at least, could only go out the next day doing work as I had done the entire summer before, nothing new to spring upon the unsuspecting public; it was not necessary, in my opinion, to take fully half the time allotted to the Inspectors for a lecture on the honey flow of Iowa.

It may have been quite interesting to a student of botany but to the average bee-keeper it would be like reading that great narrative written by the man Webster commonly called the dictionary.

It would do to while away an idle moment, but rather dull and badly disconnected, taken as a whole.

What I am trying to get at is it was not what the Inspectors needed. It is not necessary for the average bee-keeper to know the botanical names of all the plants that yield a very little nectar occasionally in his community.

What the man who makes his bread and butter out of his bees needs to know is those plants that yield to him that great harvest that he needs and is working for; we all know that it requires a great force of workers to gather that harvest when it comes and his main effort should be put forth to have on the stage of action at the right time and of the right age a

force sufficiently large to gather that surplus.

He should be taught that it is not necessary to have a great force of consumers all the time to gather that infinitesimal drib that does not pay for the wear and tear on the machinery.

They did teach us that the Inspector should be a walking storehouse of knowledge, but failed entirely to impart any part of that knowledge that would fit him for that great struggle that comes when he goes out and fits himself against that wise and sometimes contrary bee-keeper and what bee-keeper is not wise or contrary, or both.

Some of the teaching was, to my mind at least, decidedly rank, for instance, we were taught that the time to inspect for European foul brood was before the white clover harvest, as it nearly or quite disappeared after that time, when the fact is that the very next day I found some of the worst cases of European foul brood I ever found in my life, which would be evidence enough that our teachers were at fault, and it appears to me that I have found as much European foul brood to the number of colonies examined the after part of the season as earlier.

We were also taught that there was scarcely any odor to European foul brood, when to my mind it is the more disagreeable of the two and any one that thinks otherwise should go with Mr. Kildow or me next summer one week before the white clover season or after, either, and I will assure him we can take from him that desire to be continually sampling any and every bit of honey he comes in contact with.

Now, in conclusion, let us avoid the mistakes pointed out and make this Convention such that each and every bee-keeper in attendance will be benefited by having been here.

Fellow bee-keepers, I thank you.

Mr. Pyles—Fellow bee-keepers, I had intended to have this cause some discussion.

President Baxter—The next number on the program will be Dr. Phillips' paper; he is here with us now.

Dr. Phillips—I thought perhaps there was not going to be a Convention this year; at the State House they didn't know anything about it but I finally found you at the City Hall.

The subject that has been assigned to me at this time is: Outdoor Wintering. It is perhaps a little late for anything that I may say to do much good for this year; at least that is our opinion of the situation because we feel that whatever preparation is to be made for outdoor wintering should be made early; however, a man at Akron said perhaps their memories were sufficiently long to last a year.

I should like to read this afternoon, with certain modifications, parts of a Bulletin we have recently issued, for the purpose of driving some of these things home.

I do not expect everybody to believe everything I say but I would like everybody to understand what we do believe.

I thought it was best to take extracts from this Bulletin on this occasion.

OUTDOOR WINTERING.

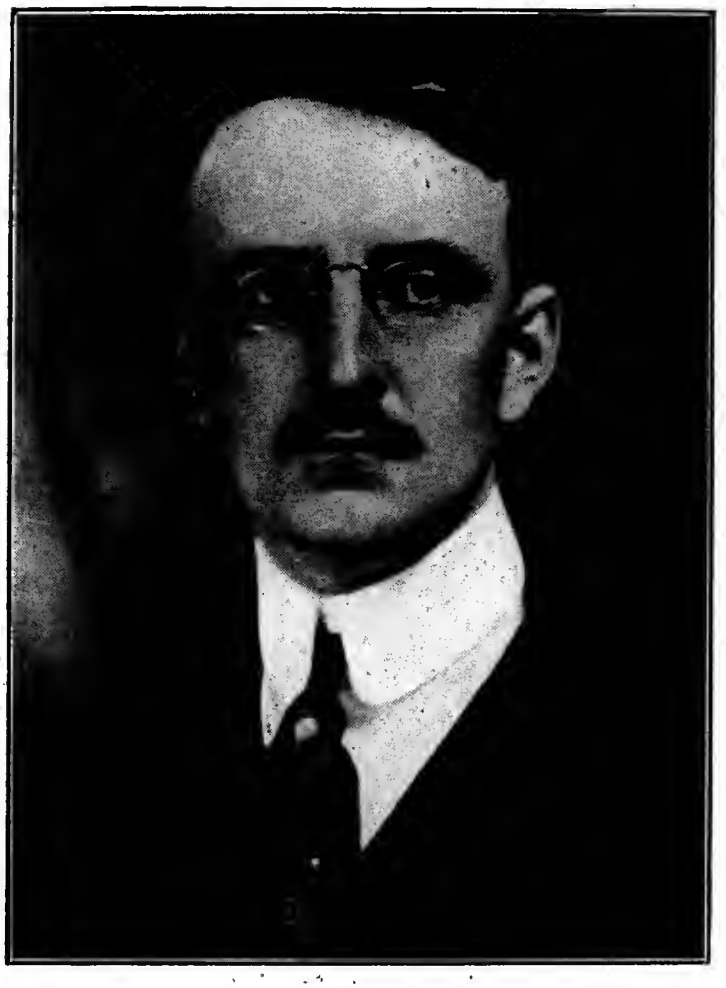
(By Dr. E. F. Phillips, in Charge of Bee Culture Investigations, Bureau of Entomology, Washington, D. C.

There was recently issued by the United States Department of Agriculture a Bulletin (Farmers' Bulletin No. 695) entitled "Outdoor Wintering of Bees" by Mr. George S. Demuth and myself. In presenting this important subject to this meeting, I can do no better than to give the material included in this Bulletin, especially since not all present have obtained this publication. It would have been pleasant to prepare a special paper for your Association but, since the essentials of the subject have recently been outlined, it would be useless to attempt a rearrangement simply for the sake of assuming originality. I shall omit certain paragraphs of minor importance.

This Bulletin contains a somewhat unusual classification of the causes of winter loss and I may say in advance that I shall be glad to explain any points which have not been made sufficiently clear

Causes of Winter Loss.

The causes of death of individual bees or of a colony of bees in winter, barring unusual accidents, are only two in number: (1) Inadequate stores and (2) excessive heat production. The numerous factors usually given in the literature on the subject as entirely



Dr. E. F. Phillips, in charge Bee Culture Investigations, Washington, D. C.

distinct fall into these two classes, except for some that are usually given which the authors do not believe to be operative.

Excessive Heat-Generation.

At hive temperatures between about 57° and 69° F., a normal broodless colony of bees does not form a cluster, but the bees remain inactive on the combs. When the temperature of the air immediately surrounding the bees (not the temperature of the air outside the hive) falls to 57° F., or lower, they form a cluster and those in the center begin to generate heat by muscular activity, while those in the outer portion serve as insulators by crowding close together, usually with their heads toward the center of the cluster. The innermost portion rapidly acquires a temperature considerably higher than that of the air about the bees before clustering was necessary, often going to 90° F. in normal colonies and higher in abnormal ones. The number of bees engaged in heat production increases as the outer temperature falls and the insulating zone is consequently decreased in thickness but becomes more compact. The entire cluster becomes smaller as the outer temperature falls.

If bees can be kept in an environment such that the temperature of the air immediately surrounding them is 57° F. or slightly above, they are saved much unnecessary and unprofitable labor. To the theoretical objection that bees need exercise, it is necessary only to state that the authors have so wintered bees in a cellar as well as outdoors with wonderfully successful results. If bees are kept in a cellar under the best conditions the results are excellent, but it is not proposed to discuss this more complicated phase of the subject here. If wintered outside in a packing case with abundant insulation, any heat generated escapes slowly and the temperature of the air

in the hive rarely falls below 55° F. If inadequately protected, the temperature of the hive can not be kept so high and the bees must generate much more heat. In single-walled hives it is common for the temperature of the air around the cluster to fall to freezing or lower, in which event the bees generate an excessive amount of heat and perhaps die when they are no longer capable of the necessary muscular activity. The necessity of packing is thus made clear, and in any locality in which the outer temperature often falls to 40° F. or below it is desirable to protect bees to conserve their vitality. If the temperature should fall to 40° F. only a few times during the winter, this would not be serious enough to make insulation necessary. It is obvious, however that winter protection is beneficial throughout practically the entire United States.

Necessity of having Young Bees—Bees may be compared with minute dry batteries, in so far as their vital energy is concerned. They emerge as adult bees with a certain amount of vital energy, and when this is exhausted they die, not having power to recover lost vitality, as human beings have. To withstand the hardships of winter under usual conditions, a colony must have many young bees, capable of prolonged muscular work. Obviously, the better the wintering conditions the less necessary it becomes to provide young bees, but even with the most perfect wintering it is desirable that there be plenty of young bees in the fall, so that they will be available for extensive brood-rearing in the spring. This calls for prolonged brood-rearing in late summer. Old bees, which have been worn out earlier and are ready to die, soon succumb from the work of heat-generation.

Danger of weak Colonies—In a strong colony many bees in the center of the cluster may be engaged in heat-generation, and there will still remain many bees to serve as insulators. A weak colony, on the other hand, has less reserves for insulation, and, since heat is rapidly lost, the bees on the inside must generate excessive heat in order that the outermost bees may always be at a temperature of over 50° F. Since the surface of a spherical cluster is proportionate to the square of the diameter, while the volume is proportionate to the cube of the diameter, it follows that a large colony cluster has a relatively smaller surface for radiation of heat than does a small one. Below about 50° F. individual bees become numb, and so long as the cluster remains active the authors have never found normal bees at a temperature lower than the critical temperature, 57° F. In a small colony the inner temperature is often many degrees warmer than that of a neighboring strong colony, which doubtless explains the prolonged brood-rearing of weak colonies in the fall. Most colonies which die of excessive heat-generation are rushed to their doom by the temperature being high enough to start brood-rearing, which is perhaps one of the most unfortunate circumstances which a colony can experience in winter. By all means a colony should be so protected that brood-rearing will not be begun until frequent flights are possible.

Since weak colonies so frequently succumb in winter, it is obvious that a too rapid increase in the number of colonies in summer is unwise. Bee-keepers have learned that swarming is to be avoided because of the resulting reduction in the honey crop, and the loss in winter is additional argument against allowing the bees to exercise this instinct freely. It is a common saying among bee-keepers that a rapid increase is usually followed by a rapid decrease. It is impossible to get too strong a colony for winter, the error always being in the opposite direction.

Effects of accumulation of Feces—Heat-generation causes increased consumption of stores; this in turn causes an accumulation of feces within the bees, which is more rapid if the stores contain a high percentage of indigestible materials, and the presence of feces causes increased activity, often resulting in death from excessive heat-generation. Bee-keepers call this condition dysentery if the accumulation is so excessive that the bees are unable to retain the feces. Dysentery causes the death of bees in winter, so far as has been seen, solely by undue activity and excessive heat-production. This detrimental effect is reduced by good stores, but obviously the proper method is to prevent an unnecessary accumulation of feces by preventing a heavy consumption of stores, chiefly by pro-

viding a sufficiently high surrounding temperature. Honey-dew honey is especially injurious because of the rapidity with which feces accumulate.

In mild climates, in which there are frequent days when bees can fly and rid themselves of feces, the injurious effects of poor stores are less noticeable, because the feces do not accumulate sufficiently to cause abnormal activity. The accumulation of feces is to be considered as an irritant, causing responses similar to disturbance by jarring or exposure to light.

Influence of the Queen—In discussions of wintering it is usually stated that to winter well a colony must have a good queen. Obviously a good queen will better prepare a colony for winter by providing a strong colony of young bees than will a poor one, while a colony that is queenless in late summer and fall has little chance of living until spring. A good queen will also increase brood-rearing rapidly in the spring, if the colony has good stores and has been properly protected during the winter. Aside from the important influence on the population of the colony, the queen probably plays no part in wintering.

Spring-dwindling.—If the individual bees of a colony are reduced in vitality by excessive heat-production, they may live until spring, but are unable to do the heavy work then needed to bring the colony back to full strength. The adult bees die more rapidly than they are replaced by emerging bees, and the population decreases. This condition, which can be produced experimentally, has long been known among bee-keepers as "spring-dwindling." If this condition is observed, the bees may perhaps be slightly relieved of further unnecessary work by packing to conserve heat and by giving abundant stores, but the proper treatment is to prevent the condition by proper care in the preceding fall and winter.

Lack of Stores.

A common cause of the death of colonies in winter is starvation, which is more certainly due to carelessness on the part of the bee-keeper than is unnecessary heat-production. The greater the necessity for heat-production, the more necessary it becomes for every colony to have an abundance of stores of good quality. The amount required varies with the length of the winter, and also with the amount of heat which is generated. It is, of course, necessary also to provide or leave stores enough for brood-rearing in late winter or spring, before sufficient stores come to the hive from natural sources.

Comparison of the Colony with a Furnace.

Let us assume that we have a furnace for heating a building, so constructed that ashes may be removed only when the temperature of the outer air is warm. If the house has thin walls and many openings, the furnace can not maintain a high temperature in extreme cold weather, the amount of fuel consumed is increased, the ashes accumulate rapidly and clog the furnace, and in a desperate effort to raise the house temperature we should probably burn out the furnace. On the other hand, if the house is well built and heavily insulated, a low fire will suffice, and as a result there will be a minimum amount of ashes. The better the fuel, the less the amount of ashes in either case.

It is permissible to compare a colony of bees, as a unit of heat-production, with this furnace. If the bees are in a single-walled hive in a cold climate, the colony must generate a great amount of heat, must consume much more honey, and feces will accumulate rapidly. As the bees are unable to discharge their feces until the temperature of the outer air is high enough for flight, the "furnace" is clogged. The bees are "burned out" by the excessive heat-production, and, even worse than in the case of the furnace, the irritation resulting from the presence of feces causes still more heat-production. On the other hand, if abundantly insulated, the heat generated is conserved, the consumption of stores and amount of feces are reduced, and the bees can readily retain the feces until a flight day, in any place in which bees can be kept. The better the stores the less the amount of feces in either case.

We should not expect much of a furnace in an open shed, and we have no more right to expect good results from a colony wintered in a thin-walled hive in a cold climate, or even in a better hive placed in a windy location.

Conservation of Heat and Reduction of Expenditure of Energy.

In outside wintering the heat produced by the bees is conserved by the insulation of the cluster itself and also by the insulation of the hive and packing. In the cellar there is less insulation near the cluster, but the cellar itself replaces the packing, and is in reality simply an insulation. The insulation of the individual hive, of several hives packed together, or of bees in a cellar, serves solely to reduce the loss of heat generated by the bees.

The amount of packing that should be used, obviously, varies with the climate and it is impossible to make definite general statements in a Bulletin intended for all parts of the United States. There is one general statement which can be made with safety: The majority of bee-keepers do not give sufficient insulation and no bee-keeper ever gave a colony too much. The aim of the bee-keeper should be to keep the air about the bees at about 57° F., at which temperature there is no condensation of moisture within the hive, even on the inside of the cover, where it first appears. It might be inferred that if double the amount of packing had been used the temperature of the air about the bees would have been too high. This is not the case, for bees cease heat-generation when the temperature reaches 57° F., (or even sooner when the surrounding temperature is rising) and the temperature will not exceed 57° F. unless that of the outer air remains higher than that for a considerable period.

Bees well protected and with good stores do not fly from the hive because of the warmth within when the outer air is too cold for them to do so safely. If bees fly at low temperatures (45° to 50° F.), it is an indication that they need a flight because of an accumulation of feces from poor wintering, and does not at all indicate too high an inside temperature because of too much packing. In conclusion, the bee-keeper can not apply too much insulating material to a hive.

It has been found that, even with abundant insulation, the temperature within the hive and outside the cluster is greatly reduced if the packing case is exposed to wind. During the winter 1914-15 a record was kept of wind velocity directly over a heavily packed case (with entrances ⅜ inch by 8 inches), and it was found that a wind with a velocity of 20 miles per hour directly on the case reduces the temperature within the hives practically to that observed in an unprotected hive. The beneficial effects of the insulation were therefore nullified, and the proper temperature within the hive was not regained for several days unless the outer temperature rose considerably. Bee-keepers have long emphasized the importance of protection from wind, but the results observed were much more pronounced than was anticipated or than has ever been suspected by practical bee-keepers. The ideal toward which the bee-keeper should work is to keep his colonies during cold weather absolutely protected from wind, for here again the protection can not be too great. It is entirely erroneous to assume, as some have done, that such protection is not essential in well-packed hives.

There are several types of hives on the market in which the insulation is built in, to be retained throughout the year. There is no objection to the packing in the summer, except that such hives are not convenient for moving and in some other manipulations. Insulation in commercial double-walled hives is by means of air spaces or insulation, such as sawdust, chaff, broken cork, or shavings. These hives are better for outside wintering than single-walled hives in any part of the United States, but they do not provide adequate insulation at temperatures below 40° F. Such hives must, of course, be protected from wind, or they are for the time being no better than single-walled hives.

Types of Insulation.—Various materials are used for insulation. Beside those named above, paper, dry leaves, and many other substances are in use. Most of the common insulating materials depend on small confined dead-air spaces for their insulating value, and, in general, the more finely divided the air spaces the more efficient the material. Sawdust is usually condemned, because if moisture escapes from the hive into the packing it is retained and the insulating value is reduced. However, if a colony is sufficiently packed, moisture does not condense, except possibly at extremely low external temperatures, and this objec-

tion to sawdust is removed. From observations so far made, it appears that the bee-keeper may use the materials most easily obtained. If dry leaves are used, they should be packed tight, but sawdust should simply be poured in place without being packed tight.

The Entrance.—The weak place in hive insulation is the entrance. An opening 8 inches wide and ⅜ inch high is abundant, it usually being constructed as a tunnel through the packing. In cold weather this might be still further reduced. The opening should be shielded from the wind, to prevent a rapid loss of heat, for if the wind blows against the entrance the heat stored up in the packing is lost both to the outside and the inside. The only reason for an entrance as large as the size mentioned above is the danger that dead bees will drop from the combs and block a smaller entrance. Since the number of dead bees is greatly reduced in well-insulated hives this is less important, and, furthermore, if the air within the hive is warmed to 57° F. the dead bees will be pushed outside, even in freezing weather.

Methods of Packing.—The exact method of packing is not especially important, provided enough insulation is given on all sides. Colonies may be packed singly in any sort of box, or they may be packed in groups of four. Some bee-keepers arrange colonies in long rows and apply insulation to the whole row. The placing of several hives in contact has the advantage that the colonies insulate one another. If arranged in groups of four, two facing east and two west, they may be left on the same stand throughout the year and are readily manipulated during summer. If in long rows close together, summer manipulations are impeded, unless the hives are moved after the insulation is removed. Placing colonies in long rows is therefore not advisable. Whatever type of outer case is used, it should be tight, to prevent rain and snow from wetting the insulating material.

A rather common practice is to pack the hive at the sides, top, and rear, but to leave the front unprotected and faced to the south, the object being to utilize the heat of the sun to warm up the interior of the hive and reduce the work of the bees. Any place through which external heat may readily reach the interior of the hive is also efficient as an avenue through which heat may be lost when the sun is not shining. Since the sun shines less than half the time in winter, making no allowance for cloudy days, the weakness of the argument for this practice is obvious. A similar practice is to paint the packing cases a dark color to absorb the sun's heat. Considerably more detailed work is needed to determine to what extent this source of heat is of value to the colony.

Time for Packing.—At the time of the first killing frost the bee-keeper should promptly remove supers, if any are on his hives. If the bees are not adequately supplied with good stores for winter these should now be given immediately, and, when the feeding is finished, the winter insulation should be applied at once. At this time bees are the quietest of any period of the year. The disturbance incident to putting on the insulation does not do them any harm. After this the bee-keeper should have no occasion to open the hive until spring. An outer temperature above 60° F. is desirable at the time of packing, especially if no brood is present. Any day when bees are flying is suitable.

If packing is delayed until late it may do far more damage than to leave the bees unpacked. A colony of bees that is generating heat in response to low temperature is considerably disturbed by the manipulations during packing and the temperature of the inside of the cluster is promptly raised. Frequently, if bees are packed too late (when it is too cold outside), the cluster temperature is raised to brood-rearing temperature, the queen begins to lay eggs, and brood-rearing is usually then continued through the winter, unless it results in the death of the colony, as is often the case. Many bee-keepers pack their colonies in December with most harmful results. There is probably no place in the United States where packing is needed in which it is safe to wait later than Thanksgiving Day. Since more bee-keepers make mistakes here than in any other phase of outside wintering, this should be emphasized most strongly. The authors have succeeded on several occasions in starting brood-rearing in December by manipulation, both in colonies wintered outside and in removing bees to a cellar, and it is

certain that such winter brood-rearing is highly injurious to the colony.

Time for Unpacking.—If a colony has a good queen and plenty of stores and is well packed, the bee-keeper rarely has any reason for opening the hive until spring is well advanced. If he is not sure of the condition of the colony, he may wish to examine it earlier, but this first examination should be brief and the packing may be partially removed and replaced afterwards. If there are any queenless colonies or any colonies short of stores, these defects should, of course, be promptly corrected, after which the colony should remain undisturbed until, as the season advances, frequent manipulations are necessary. It is often best to leave the insulation on until the colonies need more room, which will probably be as late as May 15 in the north. Colonies which have wintered poorly need their insulation longest, while colonies that have been well insulated, either in a cellar or outside, can, if necessary, stand considerable exposure without much damage, although the work of heat-generation thereby reduces the energy available for building up the colony rapidly.

The time for removing packing may be still further delayed by wintering a colony outside in two-hive bodies, the upper one being well supplied with honey. Since there is more space to keep warm, such a hive should be more thoroughly insulated. If this plan is followed, the bee-keeper is sure that sufficient stores are available and he can probably locate any queenless colonies by a brief external examination. Since wintering in two-hive bodies has not been practiced extensively, it should be tried with caution, but reports of this method should be available from all parts of the country and bee-keepers are urged to try it on an experimental scale. The plan has much to commend it.

Providing a Windbreak.—It is well established that a windbreak of evergreens is superior to a solid windbreak, such as a house or solid fence. The bee-keeper can readily determine whether his bees are located in a place where the wind rarely or never blows more than 5 miles an hour in winter. If the apiary is not so located, it should be moved during the summer to a place in the woods, in a gully, or in some other sheltered place. Bees should never be moved in winter. If it is not practicable to move the apiary, a high fence, perhaps 8 feet high, should be constructed on the exposed sides. The more compact the apiary, the easier it is to construct a windbreak, which is an argument for placing colonies in groups of four. Evergreens are slow growing, and a high fence may be used until the permanent windbreak is sufficient. If the apiary is practically surrounded by buildings, this may be adequate protection, but such a location is usually not the most convenient for the apiary. A southern exposure is usually recommended as best for winter, for it is claimed that the heat of the sun is beneficial. Since the sun shines only a small fraction of the time in winter in most localities, especially in the east, where there is much cloudy weather, this feature should not be unduly emphasized.

Providing Adequate Winter Stores.

The amount of honey that a colony will need from the time it is packed until it is unpacked can not be closely estimated. The aim of the bee-keeper in winter should be to save bees rather than honey, and he can make no more profitable investment than to give his bees more than they can possibly use. Some bee-keepers claim that it is best to have the old bees die soon, so as to save stores. The actual consumption in such badly wintered apiaries is probably not at all decreased.

If the bees do not have sufficient stores, they may be given combs of honey, but these should always be given before cold weather, so that a proper clustering space may be formed by the moving of honey, since bees always cluster in empty cells of the comb adjacent to stores.

If honey in combs is not available, the bees may be fed extracted honey, but the usual practice is to feed a thick sugar syrup made of 2 or 2½ parts of sugar to 1 part of water by volume. To this syrup 1 ounce of tartaric acid should be added for each 40 to 60 pounds of sugar while the syrup is being heated to the boiling point to dissolve the sugar crystals. The syrup should be boiled 15 minutes. The acid helps to invert the cane sugar, thus retarding its granulation in the combs. If there is any question as to the quality of the stores, it is a good practice

to feed about 10 pounds of syrup at the time of packing, in addition to the stores provided earlier, this being stored immediately above the cluster. It is thus used first, and an accumulation of feces does not occur so long as the bees use only the sugar syrup. There is, however, no better food in winter than a good quality of honey. As was stated earlier, honey-dew honey causes a rapid accumulation of feces, resulting in dysentery. If this is present in the fall, it should be removed and better stores given. Some fall honeys are similarly injurious, but their injurious effects may be reduced by feeding syrup at the time of packing.

Summary and Conclusions.

Bees need protection from cold and wind in winter in practically all parts of the United States. The bee-keeper should give abundant insulation, since it is impossible to give too much and since most bee-keepers give too little. Great care should be exercised to protect colonies from wind. Every colony should be strong in the fall, so that heat may be generated and conserved economically. To reach the proper population a good queen is necessary.

Many colonies die of starvation in winter. This can easily be avoided.

The bee-keeper can make no better investment than to give his colonies proper care for winter.

If the excessive winter losses are prevented, commercial bee-keeping will be greatly benefited. Such a condition is entirely possible when bee-keepers come to understand the fundamental principle of wintering.

Mr. Hawkins—I would like to make a motion that we extend to Mr. Phillips a vote of thanks for reading this paper.

Motion seconded and carried.

President Baxter—The paper is now open for discussion.

Mr. Hawkins—I would like to ask a question. Doctor Phillips spoke of feeding a thick sugar syrup; and to this syrup add one ounce of tartaric acid for each 40 to 60 pounds of sugar while the syrup is being heated to the boiling point to dissolve the sugar crystals. Does it make any difference when the tartaric acid is added?

Doctor Phillips—The sooner, the better; before we put any sugar in at all; after we get the water boiling put in the tartaric acid; then put in the sugar.

Mr. Dadant—I found in looking up the subject that in 20 years Doolittle had every year recommended exactly the same thing; I think it was five pounds of honey to 35 of sugar and 20 pounds of water, for 50 pounds of material.

Doctor Phillips—If he dissolved the sugar and added honey as it was cooling and gave it time to act; Heddin recommended the same thing years ago.

President Baxter—I fed something like 5,000 pounds of sugar last fall; I don't boil any of it and don't have any of it granulate.

Doctor Phillips—How much water?

President Baxter—Half and half.

Doctor Phillips—The bees had an opportunity to do it for you.

President Baxter—Last year, in August, I made a trip out west; went by auto; we went to Kansas City and visited a bee-keeper at Independence who makes a practice of making honey out of sugar; he showed us the whole process from beginning to end; I have some of his honey at home now; some of the nicest comb honey you ever saw. He calls it sugar honey; I have some of that honey that passed the winter last year outside to see what it would do; you cannot see any signs of granulation at all; it is very fine.

Doctor Baxter—How about the flavor of that honey?

President Baxter—It is good; I would not know it was sugar honey by the flavor.

Mr. Dadant—I want to call the attention of the bee-keepers to something that Doctor Phillips said about giving abundant insulation.

I think we do not put enough stress on the fact that very strong colonies winter best. I remember having a colony once which I tried to pack in December, and they would not let me because as soon as we started to disturb them they came out and started to sting us; every time I went to that colony, no matter how cold it was, it was ready to jump on us.

It was exceedingly strong; evidently the bees themselves were insulating the colony; and, if we can get our colony strong enough so that they will keep the hive warm, there is not so much need of protection.

Another thing, and perhaps it is known, that we follow the forest leaf method of packing our bees. Forest leaves are cheap; our bees are next to timber, and we noticed long ago that where leaves are gathered in the forest where the timber is thick you will find the ground unfrozen in the coldest weather. You will find the ground loose under the leaves, where the leaves are very thick, indicating that the leaves are good insulators.

Doctor Phillips—And they keep dry.

President Baxter—I would say that the leaves absorb the moisture and the bees are dry.

We have been following the method now for thirty-five years with great success. You remember the terrible winter of 1884-85; my losses then were only among those that were not packed according to my method—the Dadant method. Out of sixty hives we lost all but 12, those having the sealed covers. I did not lose 5 per cent where the sealed covers were taken off and replaced by a mat and capping filled with leaves.

When you pack bees you want to have good strong colonies—fairly good stores; don't try to winter on poor colnies, poor stores and a lot of honeydew.

I have been using for the past 35 years chaff hives. The chaff packed hives always come out in the spring better and use less honey.

In 1911, I had an apiary six miles east of town; it had eighty colonies. I packed the bees with a big load of leaves and mats for all colonies, but didn't have enough leaves to pack 12 of the colonies; I was short 11 mats. I took the cover off of one and put the mat over that one colony and left with sealed covers the other 11. Those 11 were dead in the spring. The one was alive with the mat on top the frame, all those that were packed with leaves were alive.

In 1884-5 the bees actually starved to death because they could not get at the stores—those that were packed with leaves were nice and dry and could get at the stores at any time.

Doctor Phillips — At Ontario, in speaking of outdoor wintering and packing, somebody said something about the Langstroth hive, and one bee-keeper got up and said that if Mr. Langstroth could see the thing that was called the Langstroth hive today he would turn over in his grave. His hive was the double-walled hive and he always advocated hive insulation.

President Baxter—I have found great objection to the Langstroth hive for wintering; the shallowness of the frame; in deeper frames they winter better with the same kind of packing.

Mr. Stone—I just put cheese cloth over my brood frames and leaves on top of that; I find it as good as burlap and it keeps the leaves from falling through, which is all that is needed.

Mr. Pyles—I think I have said before at the Illinois State Bee-Keepers' Association: There are some things we don't know.

About the wintering of bees; the matter of packing; the getting ready or not getting ready.

Some four or five years ago Mr. Kildow and I went down to one of our neighbors to look at some bees he had. We had in view the idea of buying.

He had every kind of hive under the sun except the modern one; one thing he had was a box about one foot square and another box about a foot square to get the surplus honey; the hive was standing there without any cover with two feet of snow. That is the kind of hive they had wintered in and it was the strongest hive of the bunch, without any protection whatever, with two feet of snow lying on the ground; those were fine and in first class condition, and I would be glad if I could have my colonies go through the winter in a modern hive in the condition that old square box was in.

Doctor Phillips—The hive fitted the cluster, didn't it?

Mr. Pyles—No, the cluster when I saw it was bigger than the hive. There was that snow lying on top and whenever it melted it must have run down upon those bees.

I have sectional hives; have a ⅜-inch bee space in front (the entrance). I pried up this hive one winter from the bottom board and put a 2-inch block under it. I had plenty of leaves and during the honey flow in the summer time there was an abundance of ventilation. I left those hives down before winter and had this ⅜-inch entrance in front. Two or three thicknesses of burlap were placed and a telescope cover on top of the hive. A

hole was bored in each end of the cover.

At the time I speak of, in some way I missed a hive and let it stay up on that two-inch block. A good many bees died that winter.

In the spring I went to my apiary to see how many bees were dead. I went along and wherever I found the bees were dead I shook them out and shut up the entrance so that nothing could destroy the combs.

I came to this hive and saw it sitting up on those blocks where I had neglected to let it down, and I said I will let this one alone and shut it up, it is all dead, but when I got near it I found there was a buzzing sound. I turned up the oilcloth and found I had the strongest colony of bees.

There are some things we understand and some we do not, and one is that like conditions do not produce like results, as in this instance.

Mr. Stone—Mr. President, I will tell you another exception.

Forty years ago I had a neighbor who kept bees and he let them go through the summer and winter, with his hives open, and they were very strong. I was at his house in the spring of the year and his bees were as strong as anybody's.

Mr. Bowen—I would like to ask Doctor Phillips what temperature would it be on the outside when the temperature went below 57 on the inside?

Doctor Phillips—It depends entirely on insulation of the hive; if a single wall hive, the temperature practically is the same inside as outside. We had bees last winter in a packing case with 6 inches of insulation all around and the temperature very seldom dropped below 55 until the wind got strong, then it went down.

Mr. Bowen—Don't you think that change takes place from the opening?

Doctor Phillips—Cut it down the way we did and it does not take place very rapidly.

Mr. Bennett—Do you pack under the hive?

Doctor Phillips—Always; use four inches underneath.

Mr. Bennett—I like Doctor Phillips' paper and think a good deal of it, but I guess my experience with bees has not gotten used to the modern way of taking care of them.

The same winter Mr. Stone lost 80 per cent of his bees, I had about the same number that he had and I lost scarcely any. My brother here spoke of finding hives raised up in front.

I was very busy one fall and I blocked them up one inch or so off the bottom boards, and was tied up in the fall and could not get to them; so the winter came on, and I let them alone, expecting to have severe losses in the spring, and I went down there and found scarcely a loss; no insulation and in single wall hives. I did not lose but one out of 100 last year. I used no insulation; my bees were set up ten inches off the ground, over a tight box. On some of my hives last year I set my extractor bodies back on the hives; I got busy with fruit and left them until spring and those that were double wall hives came through best.

I do allow for plenty of supplies, and where my main apiary is located they get in their supplies late in the season. They have a lot of young bees, a lot of supplies, and probably that offsets the matter of insulation to some extent. Last winter I had scarcely any loss.

As a rule I leave only a little space in the front of the hive. If this matter of insulation will pay for the extra expense of it, it ought to be done.

President Baxter—Conditions must always be known; often it counts for nothing where one man loses and another winters successfully. The only way is to try two apiaries side by side. Winter colonies in one apiary in one way and in the other apiary another, and in this way you get facts. The winter brother Stone had his heavy loss he had lots of honey-dew, while perhaps Mr. Bennett had good stores; that makes a big difference.

Mr. Stone—I didn't get my bees packed well.

President Baxter—If you have good stores and strong colonies they will get along very well without so much attention.

Let me give you a rule:

Take the winter of 1884-85; I don't believe we have seen a colder winter. I had three apiaries; my home apiary was packed as I usually pack them; had good stores, colonies were all strong. My two out apiaries were neglected. I was foolish enough to accept a school that winter and never packed my bees. At my home apiary

the loss was four colonies out of 80; in the country I had twelve colonies left out of 65 in one place and 75 in another; and when I examined those bees there was a sheet of ice on both sides of the frame; they had plenty of honey but could not get at it. Now where this moisture could escape and be absorbed by the leaves, or go out of the hive above, the bees wintered well; where it could not they all died.

Those are not exceptions; that is the rule.

I have had that occur since and I am satisfied that where you have good honey, where your bees are strong, especially in young bees, and are properly packed so that they will keep dry and keep up a certain amount of necessary heat required, they will winter well.

If I have a very strong colony of bees I will leave ten frames; if weaker, eight, six, down to five, and have had five frames go through the winter just as well as ten. I put in a division board and the bees are well covered.

Mr. Diebold—In 1884-85 the results were most disastrous; more disastrous than any year I have ever known; probably the greatest losses up to that time or since that time.

Mr. Bowen—This spring my bees came out of winter quarters with too much honey, if there is such a thing. The outside combs are always full and I think that probably helps to insulate; I always leave a chance for this cross-ventilation over the frames. I keep the cloth down tight, solid, and keep a board over that.

President Baxter—Throughout Illinois last fall, and probably the whole of the Mississippi Valley, many colonies of bees did not make enough to winter on until half of them had to be fed, but where they made plenty of stores to be wintered on they also brought up a lot of young bees and were strong and went into winter quarters in good shape. There is a big difference whether they have to be fed for the winter or get natural stores.

Mr. Bowen—I started out by saying a while ago my bees had plenty of honey; for that reason I may have gotten through better than some of those would have gotten through that had their bees packed. Last year it so happened that our bees in our out apiary put up more honey per colony than any bees in the state.

Mr. Hawkins—I would like to ask: He spoke of those five frame colonies going through the winter well; would you think that, if you had combs of honey on hand, combs of honey would be as good insulation as to fill up with leaves?

President Baxter—Yes.

The time is getting late and we have about finished our program for this afternoon; what is your further pleasure?

Mr. Stone—There is one thing that is not on the program, and that is the election of officers.

President Baxter—We have a paper from Mr. France. Doctor Baxter, will you please read it?

Platteville, Thanksgiving Evening,
November 25.

Brother J. A. Stone:

I am sorry at the last moment to find it impossible to be with "The Boys" and not time now to properly prepare a paper, but will just outline:

As a large majority of bee-keepers are farmers or interested in same, I wish to outline a subject which to me is of great importance in bee-keeping.

YOUNG QUEENS FROM BEST OF STOCK.

What would you think of me as a farmer if I never changed the head of my farm stock, be it horses, cattle, sheep or hogs? Kept same sire so long as he lived, then his son to cross with his own relation. We would soon find lack of vitality, sickness and scrub stock.

I dare say this condition has been the true situation of many bee-keepers, and, dare I say, of some at the Convention?

I have been keeping careful records of the apiaries with European foul brood, and to a great extent this in-breeding has been going on for generations.

In an apiary where exact age of each queen is kept, I find no disease, hives over-running with young bees in the fall, which have the energy to maintain heat when needed during the winter; also this apiary, which is re-queened largely every summer, has no spring dwindling, but has young hatched bees in abundance, are the hives which are full of brood in early spring, first to prepare for swarming, and the

ones which "get there" during honey flow. His average of honey per colony is more than double nearby apiaries, with old queens of inbred records if any have been kept.

I fully believe European foul brood is a "blessing in disguise." It means the owner must clean up, get some better blood in his bees, and with that comes a still more important part, "a better bee-keeper."

In a diseased apiary of over two hundred cases of European foul brood, we treated and used young queens from several breeders, and watched results.

Some of those swarms after requeening and removing combs showed it in a half dozen cells during the season.

So that queen was exchanged for one raised from another strain which never showed the disease. It took two seasons to find whose bees were the strongest or most immune to disease.

This breeder does not inbreed but is selecting and importing all the time and only from the best does he raise queens for market. So far not one of his queens used in many diseased apiaries has showed disease.

I wish to say I am no queen breeder nor am I interested in any, but I do wish to impress the bee-keepers in Illinois State Convention that this subject is of great importance.

Better queens—better bee-keepers—better winter stores with better winter protection. More honey and more profit.

Best wishes to you all.

Yours truly,

(Signed) N. E. FRANCE.

Mr. Bowen—Since coming to this Convention I have had some talk with some of the men about queen breeders in particular, and I take the same stand that Mr. France does.

This matter of inbreeding: While you might get pretty bees, you work against the vitality of the bee. Some took exception to it. I still hold to the idea that we ought to introduce new blood every year and this practice I have followed for some time. Generally I want to introduce from twenty to twenty-five per cent.

I have never had any foul brood; I don't know whether that is the cause of it. I don't want to brag too much about that. I have never had any foul brood, and I do believe in the matter of hunting up who raises the best queens, the best honey gatherers, and introducing a little new blood in your bees every year; and then as a rule I bought from those if they were good.

It is just as he says—it is something that pays—good stock. Who would think of following up the same strain without some new blood?

Mr. Kildow—I don't want to get into any discussion, but I have my doubts about this inbreeding business among bees and insects; I don't believe there is anything in it, still I cannot go ahead and tell you exactly why.

There are lots of things we believe but we can't tell it exactly. I believe if you breed from the best of your yard and keep selecting that way that you are on the right line and are doing as good as the man who went off and bought queens from some one else; he is doing the same thing; and, after you get pure stock to start with and will select from the best, I don't believe in that inbreeding business among insects.

If you get queens from different parties through the country you don't know where you are, hardly; you are getting a promiscuous lot; you cannot get a standard. Every fellow is breeding after his own liking, and if you get queens from Tom, Dick and Harry, I don't believe in it.

Mr. Stone—I am a good deal like Mr. Kildow. I get new queens pretty nearly every year, but then I select the young queens from the best queen I have got, but when these young queens hatch out and go out to be fertilized I don't know but that the drones will go out of the same hive as she does; then what am I going to do? You cannot control that.

Mr. Coppin—You could prevent that now if you wanted to. If you have one hive better than the other that you want to queen from, keep the hive without any drones; you would not have any inbreeding.

Mr. Pyles—That has been thrashed out a number of times at Conventions at which I have been. In the Illinois State Convention two years ago; in the Chicago and Northwestern Convention and the Eastern Illinois; and anything that is brought out usually is re-hashed from that which has been said before.

In Italy are they importing new queens all the time to increase their stock, or are they making use of that which is produced in Italy? Are they sending to America, to France or to

England, to introduce new queens? Or are they selecting from stuff they have there?

Is it not the survival of the fittest? What has made the great race of Italian bees?

How is it with the French people, with the Italians? They are Italians because they have been bred there for hundreds and hundreds of years and the same class of people living there are bred and must be closely related; the Jews are the most closely related people on earth. They can stand more strain when it comes to dollars and cents than any people on earth.

We have a greater amount of weaklings in this country than any other country. We cannot stand what the Italian laborer can nor what the Austrian can.

We must do the same thing, and if the bee-keeper will step in and select not for color alone but for vitality, for honey gathering—that is what we are trying to get—and, if he will select from his best, he cannot make a mistake, but if he selects from his poorest he is going to run down rapidly; at least, I think so.

Mr. Dadant—I think Mr. Pyles has given an argument against his contention, and I think the American race is successful and growing fast because of this mixture of nations.

We must do a little selecting and a little cross-breeding.

It is a good thing to select from your best but it is a good thing to from time to time get some of the best of somebody else.

Americans are being bred from Scandinavians, Italians, Greeks; a race mixture.

Mr. Pyles—Do the people in Italy do it that way?

Mr. Dadant—The race in Italy is a race itself.

Mr. Dadant—We want some inbreeding, but we want the best.

The American people are not up to the standard because we have more consumptives, more cancers. We are more careless.

President Baxter—I think, in summing this up, that any one who is familiar with Darwin's origin of the survival of the fittest will agree there can be no improvement unless there is inbreeding. But the inbreeding must be made according to scientific principles and have some purpose.

You cannot expect to inbreed queens from indifferent colonies, weak or subject to European foul brood, or poor honey gatherers, etc., and get anything good out of it, but if you do inbreed from colonies that are marvelously vigorous, good honey gatherers. docile and all that, your product will be still better; it is so with all animals except the human race.

You cannot expect to improve horses, cattle, swine or anything else without selection in breed; it is a scientific fact with all scientists that inbreeding where proper selection is made is the only true secret of improvement.

When it comes to bees, I don't see how there can be inbreeding when you take into account the different changes there are in the apiary, in cross-selections, in mating; inbreeding in an apiary is practically impossible; it is not as in other animals.

Mr. Dadant—Not if you raise all your best stock from one breeder.

President Baxter—Well, that would be all right; that would be inbreeding and would be the proper way if you use good stock, but not the average apiary.

I raise my queens as others raise theirs, for home use; the commercial queen breeders could not raise enough.

Doctor Phillips—They raise six or seven thousand queens from one mother in a year.

President Baxter — Some of the breeders I have seen claim that they do not. Didn't know there was any place in the United States where they did.

Even then, I would prefer those queens from proper stock to those that were raised promiscuously. This inbreeding is a bugaboo; it all depends on how it is conducted.

President Baxter—The meeting will stand adjourned until 7:30 p. m.

7:30 p. m. meeting convened.

President Baxter—Gentlemen, we have come to order now and we have no regular program for this evening. As Mr. Stone has suggested, the first thing that we might consider is whether we wish to have our picture taken tomorrow to put in the report. What is your pleasure?

Mr. Stone—The artist suggested that we could go to the Lincoln Library and

have our pictures taken on the steps there.

We will have it taken between 9 and 10 o'clock, if agreeable. (It was so decided.)

President Baxter—The first matter we will consider will be the matter of securing a building for our honey exhibit on the Fair Grounds. Was that brought up by resolution?

A member—By question: What is the best way to secure an apiary building at the Illinois Fair Grounds, a separate apiary building?

Mr. Dadant—My reason for asking that question: The Minnesota people have been highly praised by those who have attended their Fair, and I wrote to their President to ask what they had done to secure such nice results.

They wrote back they had obtained from the Fair management a separate building, the size of which I do not remember, but they have ampe room for their exhibits of all kinds. They have a little ground adjoining which is separated by a sufficient fence so the bees do not disturb any one; they bring quiet bees there, and the bee-keepers of the state have clubbed together to bring enough honey to run an extractor the entire six days of the Fair, and the report was it was astonishing how many hundreds of people saw the extracting and asked questions and became enthused over the consumption of honey.

Illinois ought to keep up with Minnesota; however, I must say, we don't give near the premiums that the State of Minnesota does.

The state of Minnesota gives, I think, $1,165 in premiums on bees and honey and Illinois gives, I think, less than one-fourth of that.

Mr. Stone—About half.

Mr. Dadant—We ought to be able to keep up with Minnesota.

Illinois is one of the best states in the Union, certainly equal to Minnesota, in the production of honey and in bee-keeping, and there is no reason why we should take a back seat.

It seems to me that the Illinois State Bee-Keepers' Association should take the matter in hand and insist that the Fair organization must see that we have representation as well as Minnesota, and I believe we can obtain it.

Mr. Stone—Mr. President, the State Fair at Oklahoma City, Oklahoma, has a building for the Apiarian Department and the Culinary. In our Fair here, the Superintendent of the Apiarian Department is also that of the Culinary Department, and it would exactly suit him to run them both in one building and the bee-keepers have the whole of the outside of that building. There are no windows but all skylight. The whole roof is skylight; it is splendid.

President Baxter—Where was that?

Mr. Stone—Oklahoma City. Our Superintendent here is over both the culinary and apiarian department and that is all he has to do and the vegetarians are trying to crowd us out of that wing. They want our space for farm products and they are after us all the time.

When Mr. Coppin is slow about getting in there they try to get his space. He comes down with a car from his town and a man brings the honey in the car with his stock, and Mr. Coppin gets down that way along with him, and he has to wait until he is ready to come, so he gets here about Saturday night and he is compelled to work Sunday to get it into shape.

There are dozens and dozens of them after that space, and there is contention all the time, and when our shelving was put in there they kicked everything about it, and they are always questioning giving us the room.

It has been said that we give a better showing for the amount of premiums than anything else on the Fair Grounds and I believe if we will ask for a proper building on that plan—the apiaries to occupy the outer circle of the building—it would be nice if it were round rather than square, I guess, because these angles are pretty hard to fill in nicely. I believe something of that kind would impress them very favorably.

President Baxter—This would have to be voted by the legislature, would it not?

Mr. Stone—No, the legislature has nothing to do with it. The State Board of Agriculture—they don't look to the legislature for anything. They don't wait for the legislature to make any rules for the State Fair.

President Baxter—Of course we coud not get the building unless the management would ask the legislature for it.

Mr. Stone—The legislature might be asked for an appropriation to put it

there. It might be all right to put in a Bill for the Legislature to have them make an appropriation for it.

President Baxter—What is your pleasure on this?

Mr. Kildow—This fall at the Fair, Doctor Baxter sprung this on me; I don't know how long he had it in mind. We have been for a number of years now showing the product of the bee-hive; that is all we have been doing. Now it is getting time to educate our people, showing where we get this, how we get it and the whole thing from beginning to end, lecture to them when the crowd gets there and show them the different hives; if some one will show them the manipulation of the hive and everything about it, it will draw the crowd and it will educate them about bee-keeping on a higher plane than it has ever been before.

We show them the product every year but it is the same thing over and over again, and they will get tired of it pretty soon and crowd us out or cut the premiums down so we won't get anything.

It looks to me as though we have to change our tactics and get more of the educational feature in this.

I talked to Mr. Stone and Mr. Coppin and I think another one or two during the Fair, and they said they would bring it up at this meeting.

I think we ought to discuss it here and have this meeting see the Agricultural Board and see what can be done about getting a new building exclusively for honey exhibits and bees; or give us all the room we have there —the center.

Mr. Stone—I would like to add to what I said about Oklahoma City. The exhibitors there paid attention to their honey exhibits; and would have a honey knife, and all the implements that a honey man needed, and premiums were offered for them.

They asked me to come out there and be judge and we passed on those things along with the honey. It was considered in their exhibits.

President Baxter—I have known of an extractor being run right on the Fair Grounds and several thousand pounds of honey sold right there on the grounds. Exhibitors here could do the same thing and take lots of orders for honey.

Mr. Kildow—It ran in my mind, if we could have a room right in the middle of that pavilion for hives and things we carry—put in a couple of men there each day to explain to visitors as they came, we should have enough to volunteer their services and no one would get tired out; we could take turns through the week.

If you have an exhibit of that kind there will be many people to look at it and it will keep one or two men talking pretty much during the day. I think it would be one of the best things we could do.

The Dairy business have a building exclusive for the dairy products; that is all they do have in that, as I understand it.

I believe if we put this up to them in the right light we could get something.

Mr. Stone—See how many cream separators they have in that building.

Mr. Kildow—I would be willing to take a day or two and explain what I knew and include my experiences in the treatment of diseases. Some others could do some other part of the talking and in that way we could make it easy on all of us and advance bee-keeping fifty per cent more than it is.

Mr. Dadant—The extracting of honey in Minnesota was in a dfferent room, a separate room; it is necessary that it should be because there must be screens to the door where they extract honey. Hundreds of people saw the extracting.

I know by my own experience how much of an advertisement it is to extract honey before a crowd.

Probably twenty-five years ago I was a member of the Warsaw Horticultural Society. They used to meet at the members' homes.

It came my turn to have them at my home. The editor of the Prairie Farmer of Chicago, then living, promised to be there to lecture. We had our shops running manufacturing foundation and we had a big crop of honey and ran the extractor.

Some gentleman from Keokuk heard of it and told the business men of Main Street, Keokuk, they should hitch up and go over to Dadant's Bee Farm.

We had over four hundred people that day. It made a very perceptible difference in our sales of honey. People knew what extracted honey was in our vicinity; they wanted Dadant's

honey; not only those that had seen it, but they told their friends of the honey they saw—honey taken off the hives, brought into a room and extracted; and they knew what extracted honey was.

Before this, they were ready to imagine that extracted honey was no honey at all. You have no idea the ignorance of people regarding extracted honey.

You can increase your sale of honey by millions of pounds if you have that in your State Fair.

If you have a few bee-keepers with large crops who want to sell their crop, it seems to me they would volunteer to explain to the people so as to sell the crop. It wil work in their own interest and at the same time benefit the Association, the Fair at large, and the bee-keepers. I think it is very important.

Mr. Pyles—Mr. Kildow and I have thrashed this matter over a little at home and we thought it would be a good thing not only to extract honey but to instruct the people how to go at it. Show the bee-keepers who are interested how to produce this crop of extracted honey and the matter of producing comb honey. A great many people don't get anything like results.

We should tell them of some of the things that would be good to do, and how comb and extracted hone be produced in greater quantities and get more money for the crop.

We would be willing to give our time to that part of it so far as we are able.

We thought in making a showing of this kind we must not only show the things we do the work with but explain to the people how to get the best results and have all the things there that go to the getting of a good crop of honey. Show them how to get things ready for the market at the same time.

I believe if extracting honey could be kept running every day all the honey that might be extracted could be sold on the Fair Grounds.

Mr. Coppin—I remember about twenty years ago I advertised in our home paper I would extract honey on a certain day in the week and, if all the people who didn't understand the method of extracting honey would come at this particular time, they could bring their vessels along and get honey at certain prices.

So, when the day came, the people crowded in—so many of them I could not supply the honey they wanted.

I had a lot already extracted, but they brought vessels larger than I had expected, and I could not supply their wants.

I sold all the honey I could extract.

In regard to our State Fair here, we did extract honey at the Fair Grounds for a number of years and it was finally cut out; but our method of extracting there was not just like it ought to be.

When the time came to extract, why, we would have a little bit of space, and the Judge would come up, probably half a dozen or a dozen people might come to see us extracting, and that would be the extent of what could be seen; there would be a big crowd around but we didn't have the space, and the people could not see what they ought to see and the result was it did not do the advertising it ought to.

Mr. Stone—Mr. Dadant, the year he was Judge, suggested that the extractor ought to be on a platform.

Mr. Dadant—There were more people trying to look than could be accommodated.

Mr. Coppin—I think we could very much better conditions by having the proper place and doing it in the right way.

Mr. Dadant—I am full of the subject; I want a remind you that the Minnesota people extracted every day, all day, during the six days. If you extract for half an hour you will have such a crowd that they will not be able to see it—but for six days, all day, morning until evening, and the bee-keepers furnishing the honey to do it, you will not only inform the people and do a great deal of advertising, but you will sell your honey. What we want is a good exhibit and show the people what we have and how the work is done.

I am in a position to know how many mistakes are made in taking care of the bees. Many people when they read of artificial comb foundation—they cut out "foundation" and say artificial comb.

We have had people come to our place to see us manufacture comb foundation imagining they were going to see the manufacture of the honey comb, the sealing of it over, etc.

Many people who come there go away enlightened and they understand why it is the honey is always straight in the sections.

Now when they have all this explained to them, you have educated them in a way that is worth millions to the bee-keepers.

They are doing it in Minnesota—why not in Illinois?

Illinois must do it and it is up to this Association right here to find the way.

Mr. Stone—I want to say something along that same line. If the people can listen to a bee-keeper tell how the thing is done, and illustrate it, they will change their minds. We advertise in the Register, honey in 5- and 10-pound pails at 15 cents, and we get from three to five orders every day, and when we get enough we start and go around. Last Friday we went the rounds, my son and I, in the automobile; we had it full of buckets of honey and we were all day unti four o'clock in the afternoon, and traveled about 50 miles or more.

We advertised it— 5- and 10-pound pails, and a number in giving their orders said they wanted it to be comb honey; one man said I want comb honey and I want it to be nice. We took two 10-pound pails of extracted honey and he took it. But at first he said: "I don't want that; that is not pure honey." His wife said: "Is that pure, real honey?" I said: "There is our card on there; we stand behind that for all we are worth. I would be fined big if that was adulterated. We have never had any notice that we were furnishing anything that was not pure"

The man said: "Yes, in this day you can't furnish anything adulterated without making yourself liable." His wife tasted the honey and said: "That sure is honey. We will send you another order pretty soon."

They bought that to sell again.

We failed only in one place where the lady didn't happen to be at home and the lady who was in charge said she would not risk taking it if it was ever so pure, she would not dare to, because the lady wanted comb honey.

There came a man in his automobile Saturday evening. "We have been out to Ashland and my wife told me to stop at your place and get some honey if you have comb." I said: "We don't have comb honey; we sell extracted." I did everything I could to convince him it was all right; he took five pounds of it, and he will be back for some more.

With honey as good as it is this year, people will learn to like it. I showed this man my bee house and what I used; I showed him that it was a big business and that this thing of adulterated honey—there is nothing to it.

President Baxter—Gentlemen, this has been discussed pretty well. I think the best way to go at this would be to embody it in a resolution, setting forth what has been done by other states and what we want, and go to the Board of Directors of the State Fair Association and put that in the hands of a good committee, and I think we will probably get what we want sooner or later, probably very soon.

I think that would be the proper way to get at it.

Now, I would be opposed to doing anything along the lines Mr. Pyles suggested. I don't believe we should educate the average bee-keeper in the State Fair as to how to produce good honey.

They should take interest enough in these meetinugs and field meets to attend, or go without the knowledge.

What we want to do is to educate the public in the usefulness of the honey bee; also in the healthfulness of honey as food, so that they wil consume as large a quantity of it as possible.

We want to get all horticulturists and the average farmer and everybody, in fact, interested in the bees, in the production of the bees, and in that way we will have the protection that we want from the legislature.

That is the only way we can get our appropriation for foul brood and for the sustaining of this Association and for other purposes that we need funds for.

Horticulturists are coming over to us very fast. They are beginning to realize the absolute necessity of bees, and the farmer also is awakening to a realization of this.

We want to educate the public at large in these various lines.

Mr. Stone—The farmers are beginning to want to buy bees to put in

their clover fields. I have had a number of applications for them.

President Baxter—Will somebody get up this resolution and present it to the Association for action?

Mr. Stone—I move that Mr. Dadant and Doctor Baxter be appointed to formulate resolutions.

Motion seconded and carried.

President Baxter—Mr. Dadant is probably better posted than any of us on that line.

President Baxter—What is your further pleasure?

Mr. Pyles—We have a number of questions here.

Question—Have any of you gotten any honey from corn bloom?

Mr. Kildow—I can say I have not.

A member—I never saw bees working on corn bloom except for pollen; more than half the ground around our place is in corn; I never knew them to get enough to keep them from starving when there was nothing else in bloom.

Mr. Kildow—I din't think they get anything but pollen from it.

Mr. Stone—I have seen them on the corn bloom.

Mr. Seastream—This year there was quite a bit of corn coming in and also quite a bit of honey; the bees were working nicely from four to five hours on them.

President Baxter—Anything further on this question?

Mr. Coppin—I put that question for the reason that there was a sample of honey at our State Fair and they said it was from corn tassel, and in my experience I had never gotten any that way, and I don't think the bees ever got any.

I simply asked that question to hear what the people—what other people would say.

I am right in the corn belt where there is more corn than anything else.

Mr. Pyles—Three years ago when Mr. Kildow and I were at Mr. Baldwin's, he reported that up in Mississippi they got a large flow of honey from corn bloom, very mild, of light color.

And, while we didn't know anything about Mr. Baldwin's reputation for truth and veracity, he talks as a man who knows what he is talking about.

Mr. Kildow—I am like the man from Missouri!

Mr. King—I was the one that presented that sample but found out afterwards it was something else.

President Baxter—Is it not a fact that corn sometimes produces honey-dew which tastes like glucose and one might take it for corn honey? Does any one know of corn producing honey-dew?

Mr. Diebold—I live in a corn belt and never had a drop of honey gathered from corn tassel or bloom in my life.

Mr. Seastream—During the time I was talking about, I thought it produced honey, and I am positively sure that they were getting a little honey because I had a field of corn close to me and as I went up I saw the bees working on it every time, and I followed the bees up from row to row to see if there were some bees that did get some honey, and I caught some and mashed them up; of course they were loaded with pollen and they had some honey but it was not very much. It was enough to breed up on, to keep the hive going on for a little while; I am positively sure there was not anything else in my neighborhood for the bees to get at that time.

I could see it to a small extent in the hives also.

I run my yards for nothing else but extracted honey.

Mr. Kildow—They say there are exceptions to all rules; I guess this is one of them.

Question—Are queens always marked the same as they mark their progeny?

Mr. Dadant—No.

President Baxter—I guess the answer to that is unanimous—No.

Question—Which is most profitable for Central Illinois bee-keepers, outdoor or cellar wintering?

President Baxter—There is a nut to crack.

Mr. Heinzel—I think that depends altogether on the winter.

Mr. Stone—I think, for this part of the state, outdoor is best.

Mr. Coppin—It depends on circumstances and the condition of the bees.

If it was like it was a year ago this time, a lot of bees would winter in the cellar when they were not in condition to winter outside; then they were light in bees and light in stores and they would winter in the cellar best but would not winter out of doors in single walled hives.

I had a lot of light ones and carried them into the cellar and the result was I lost about 100 colonies outdoors and didn't lose what I had indoors.

Of course I didn't lose all that I had outdoors but I lost a great percentage, 100 colonies.

This fall they have more bees and full of honey, so that I don't think cellar wintering will make so much difference this time.

President Baxter—As I understand this question, it asks for the general rule, not exceptions; your circumstances were an exception.

Mr. Pyles—A man just north of us winters out of doors all the time, and perhaps there is no one that winters, with all the packing you have heard talked about this afternoon, or in the cellar, that winters bees as successfully as he does or more so, year after year, for the last 25 years.

Doctor Phillips—What is his percentage of loss?

Mr. Pyles—Not more than one per cent.

Mr. Kildow—One year after another that man winters his bees successfully out of doors. So successfully that his bees are practically done swarming the first day of June, and along the first day of June, as a rule, you can hardly touch a hive with bees on it.

I don't think his loss will average two per cent, but he has—location.

Mr. Coppin—I have been at this man's place once or twice. He is down in a little place among the bluffs where he is sheltered from all the bad weather. He is protected more than the balance of us; I have been there a time or two, and he is right in where he has protection.

Mr. Pyles—All the way up and down the Illinois River on the north side of the river, or west rather, every mile or two there is just such a location as that—and any man who will pack them as he does and have them as strong for the winter—year after year, with such a slight percentage of loss—would speak in favor of outdoor wintering.

President Baxter—The question is—Which is more profitable in Central Illinois, as a general rule, outdoor or cellar wintering?

We want to confine ourselves to that—not to exceptions that may arise under certain conditions.

Mr. Dadant—We have wintered two apiaries for 15 or 18 years in the cellar while we wintered several apiaries out of doors. We had built a room in the cellar purposely for the bees in our home apiary; we had a lined ceiling; the building was sufficiently underground to keep the temperature good. In fact we had to give them air to rather cool the cellar than otherwise, but, after that length of time we wintered the bees both out of doors and indoors, we decided for outdoor wintering.

If we could tell when a winter is to be very mild beforehand we would always winter out of doors; if we could tell when we were to have a very hard winter, we would winter in the cellar.

We have finally decided to winter out of doors because we have oftener here a mild winter than very cold.

Rarely are the bees kept in the hive more than a month at a time; usually about two weeks, and when allowed to fly that often they generally winter well out of doors.

Of course the trouble in wintering in the cellar is to keep the bees cool enough in mild weather. When we have mild winter weather the bees become restless in the cellar. We have been told to use ice but a cake of ice does not last very long and the bees become restless, and we find it is desirable that they should be out of doors.

When you go to Doctor Miller's, there is no doubt about the advantage of wintering in the cellar. Where we are, in Central Illinois, I would vote for wintering outside.

If I had fairly weak colonies, I would winter those in the cellar. A colony has very little chance in wintering out of doors if it is weak, unless well packed.

Mr. Bowen—I never winter in the cellar, so I can't tell you. I have been pretty successful wintering outdoors.

Speaking of weak colonies: One weak colony I had last year—I ex-

pected that colony would be gone this spring and counted on nothing else, but it was not gone and turned out to be one of the best colonies I had this year.

As I stated this afternoon: One reason, I suppose, was that we had such a great honey flow; but in this case I speak of I had intended to unite with another but did not do so and was surprised to find it in active use this spring.

I should take the outdoor wintering every time.

Mr. Stone—I have wintered in the cellar for ten or twelve years; I have a good room, plenty large for the number of bees I had; I never had higher than one hundred and twenty colonies, and I could get them all in there, and I didn't think I would ever need any bigger room. I never wanted an out apiary because I never had the time to spend with them.

In running the farm, (we have not a very large farm, one-quarter section,) I had enough to do running that and attending to that number of bees, but we had to have, with that number of bees in the room, a ventilator at the window.

We made a ventilator considerably longer than the window and the bees got plenty of air; there was always good air in there, and we kept the temperature as we wanted it when it was cool outside.

I had pretty good luck. I noted, if a hive was very light, that it would winter through but would die in the early spring if we didn't feed it.

After running that way for a time I made up my mind to winter out of doors; I like it best outdoors; except one winter I was not fixed for it; I had not packed them—and that taught me I had better pack them.

Light swarms go through all right outdoors, and then, by early attention in the spring, they come out all right —so I have made up my mind that it is best to winter outside, here.

Mr. Bender—My experience has been the opposite. I wintered twelve years outdoors and had continuous losses, although I packed them as I should.

I wintered six years in the cellar and had practically no losses, two or three per cent; so I am in favor of cellar wintering — Langstroth hive, eight- or ten-frame.

President Baxter—It depends upon hives and other conditions.

Mr. Seastream—I have been wintering in the cellar for the last fifteen years I guess, straight, and I don't believe the losses in the last fifteen years would average three per cent where the bees were in shape when I put them in.

We do not go to work and call the hive in good shape if there is no queen in it and it is entirely too light in brood.

If a hive was in middling fair shape, I don't believe I ever lost one.

There are times when I was bothered with dysentery in the spring pretty bad but as soon as possible I got them out for a flight and in doing so I had considerable trouble in drifting from one hive to another.

There was one time there I didn't watch my business right; I didn't attend to business and they drifted so bad. I could have made three swarms of the front rows when there were hardly any bees in the hind rows, but I overcame that trouble and it didn't hurt me very bad.

President Baxter—Well, we will pass this question now. We have discussed it pretty thoroughly.

Question—What should be done with that section of honey that has pollen in it? Should it be put on with the fancy or No. 1 honey?

Mr. Withrow—I would like to ask you if that other question was decided. No two seemed to agree upon it.

President Baxter—You must judge for yourself.

Mr. Withrow—I believe if you travel around Central Illinois you will find 95 per cent or more wintering out of doors.

President Baxter—I would answer it by saying: Winter out of doors every time in this altitude unless you take the trouble to put them in the cellar during exceptionally hard winters, or the bees are weak or stores poor.

Mr. Dadant—I want to say a little about the percentage of loss. Doctor Phillips asked about what the percentage of loss was; I can see he aims for us to have not more than one per cent.

You will have to teach us better beekeeping before you succeed in having 99 per cent of our colonies in good

queens and good stores. The best bee-keeper has occasionally a colony that is weak, hardly enough honey, that has no queen; we go into winter quarters with a certain number of colonies and we don't sometimes know that the colony is queenless, and we must figure on a three or four per cent loss in that way.

I don't think you will find conditions different from this if you go among bee-keepers. There are some, I suppose, like jewelers, who are keeping bees, who look after every little detail; you may find one who will have his colonies so uniform that there is no chance of loss except big losses; but as a rule every bee-keeper has some worthless colonies, and, when they report three per cent loss, you must figure they have lost only worthless colonies.

Question—What should be done with sections of honey that have pollen in them? Should they be put on with fancy No. 1 honey?

Doctor Phillips—The grading rules put that in the cull.

Mr. Coppin—I don't remember seeing anything in the grading rules in regard to pollen in sections.

Question—Did any one ever sow sweet clover in corn when laying by corn and what was the result?

President Baxter—Who has had any experience in that?

Mr. Hawkins—I have had experience in sowing sweet clover on gravel beds in the winter time on snow.

Mr. Bender—I think the results would show that the sweet clover sown in corn would come up in the spring.

Mr. Dadant—I think what the party aims to find out is whether sweet clover cannot be made to yield a crop next year without losing a year.

Mr. Coppin—They are sowing it in our neighborhood sometimes. I believe they have been sowing it before we sowed the oats, I think in the winter on the snow, probably.

I asked one man this summer if he had any sweet clover planted; he said, "Yes, thirty-five acres." I said to him: "Do you expect to grow a crop of seeds or what?" And he said: "Yes, I planted it for the purpose of growing a crop of seeds." I said: "I tell you what I think you had better do. I think it would be a good idea for you to see Coppin and see if you could not arrange for him to get some bees out there."

He replied: "You tell Coppin he can put all the bees he wants out in the sweet clover field." So I expect to take bees to his place next summer and to have the advantage of thirty-five acres of sweet clover.

President Baxter—We know that sweet clover is sowed in wheat, rye, barley or oats, now the question is—can it be sown in corn? Will it grow, that is the question.

Mr. Kildow—There is no reason why it could not be done.

Mr. Hawkins—I don't believe it would be a good plan. I think most of the men who raise alfalfa or sweet clover will bear me out in the statement that the more preparation we can give the seed bed, alfalfa or clover, the better crop you will have.

Mr. Kildow—I want to differ.

The better attention you give sweet clover, according to my experience, the worse you are off; if you sow it on the roadside or in the field and let the cattle tramp on it, it seems to be the best way to do, in our neighborhood.

Mr. Heinzel—Two years ago, about the Fourth of July, I had a pretty stand of sweet clover; we had a dry season that year; it bloomed the second year. It came up after it was sown the same year; it bloomed this year.

I got a good stand, only there was not very much of it. Also sowed some in the rye this spring, after sowing the rye, and got a good stand. I don't know whether it would do any good in corn or not. I sowed it last July a year ago.

Mr. Stone—Did you put in lime in the soil?

Mr. Heinzel—No, sir.

Mr. Stone—Did you inoculate?

Mr. Heinzel—No, sir.

Mr. Hawkins—It was luck.

Mr. Seastream—If you inoculate sweet clover it will grow on limestone.

Mr. Heinzel—This soil overflows and probably gets its inoculation that way.

Mr. Kildow—In regard to inoculated ground: Up through our country I

sowed sweet clover along the road; you never saw sweet clover there before, but it is growing there today and that ground was not inoculated.

Doctor Phillips—Yes, it was; something else was growing that inoculated it.

Mr. Kildow—The soil through that country does not have to be inoculated.

President Baxter—It must be the soil of Hancock county grows without inoculation.

Mr. Stone—The ground along the road is rich with nitrogen and the nitrogen inoculates the soil. It is nitrogen that alfalfa and sweet clover lack when they fail to grow. The University has discovered that, and we did ten years before the University did, that when the land was rich it did not need inoculation. The nitrogen in the soil was inoculation enough.

If you try to sow sweet clover in a worn out field you can keep on sowing and you will not get sweet clover; we tried it. We sowed alfalfa and sweet clover and failed to put the inoculation in it and neither of them grew; the soil was acid; we had to put lime in; we sowed twenty acres twice and lost the alfalfa seed and sweet clover; we had some sweet clover but it would die out before it seeded; after losing two crops of seed we put limestone in and you never saw such a crop of alfalfa as we have had for the last four years. This year we cut four times; had two tons the first cutting; 1½ tons the second; 1 ton the third, and ¾ ton the fourth cutting.

Mr. Kildow—He speaks about the ground being full of nitrogen. I wonder how it was in the Sanitary ditch. It is full of limestone out there and I never saw such a crop of sweet clover as grew there.

President Baxter—Sweet clover does not need any nitrogen.

Mr. Seastream—When sweet clover came to be talked among bee-keepers, I asked about the seed; I didn't know much about inoculating the soil. I put bushels of seed in, scattered it over the country where I lived and never got a stand, but after a while I, like the rest of them, learned it needed some inoculation; I got some carpenter's glue and mixed it up with the seed, and it grows nicely. I have even tried it on limestone and it grows there, too.

Mr. Heinzel—I have seen it grow in a gravel pit where there was nothing but stone.

Mr. Pyles—It seems to me we are getting nitrogen and bacteria mixed; we must have the bacteria first to start the nitrogen in the soil. In any limestone soil sweet clover will grow; sweet clover is a hardier plant than alfalfa.

Any land that will grow red clover will grow sweet clover, and will product a crop of sweet clover.

Along the drainage canal you will find sweet clover growing with the limestone. You will find sweet clover growing among that pile of stone, nothing but stone so far as you can see but there must be some soil mixed with it.

I know of land where there are great quantities of lime and there you will find lots of sweet clover and that is where it yields honey.

We must not get the idea that we must first have nitrogen; we must first have bacteria that stores nitrogen.

President Baxter—We have been growing sweet clover for the last forty years to my knowledge and I know for a positive fact that sweet clover will grow on land that has not been artificially inoculated. Wherever sweet clover grows, sweet clover will store nitrogen taken from the air and not from the ground, and sweet clover will produce more nitrogen, acre for acre, than will red clover.

Mr. Dadant—We must not deduce from that that sweet clover will grow anywhere.

We live right by a big dam on the Mississippi River. Below our home is an immense quarry made by the Water Power Company. Millions of tons of stone have been taken out. We said to ourselves: As soon as the thing is finished we are going to sow sweet clover in that waste. It got there ahead of us.

On the other hand, I sowed on a very poor piece of land up on the hills, where there is no linestone near, several acres of sweet clover, and in some places there was not a bit of it.

I am satisfied that land is too sour or needs improvement either by lime or bacteria beforehand.

President Baxter—Can't get bacteria if it is sour.

Mr. Hawkins—I can cite you the

finest example of the value of limestone in growing alfalfa or sweet clover.

I know of a man in the state of Wisconsin (the County Agent) who had a farm and planted a field of alfalfa; a field where the seed was inoculated, and the soil was given the finest kind of preparation, was very rich, and the only place the farmer got a reasonably good stand from the field was within 150 feet of the north and south road and this man, the County Agent, claims, and I do not doubt his statement, the reason for the yield along the road was, the prevailing winds were from the west; and, whenever a team goes by this gravel road, it picks up dust and that is carried over in the farm, a very fine limestone, and scattered over the surface of that soil; and within a reasonable distance of that road, where the dust could be expected to blow, there was an excellent stand; and on the same land, eight or ten feet away, and the balance of the field, it was an absolute failure.

President Baxter—The only way to do is to test your soil. If the soil is acid you will have to have lime, otherwise, if the acid is not there, the poorest clay soil will raise sweet clover.

Question: Does alfalfa yield honey in Illinois?

Mr. Stone—I never saw a bee on it. We have had it for twenty years.

Mr. Valerins—My brother had a piece of alfalfa on which the bees worked heavily and it yielded lots of seed.

President Baxter—Did you see any results of the alfalfa honey in the hives?

Mr. Valerins—Not to amount to anything, but you could see it.

Mr. Stone—How many bushels of seed to the acre?

Mr. Valerins—On one and one-quarter acre I got seven bushels of seed.

President Baxter—"Did it yield honey?" I suppose that question means in quantities, for commercial purposes.

Mr. Valerins—Only in dry time we found that the alfalfa would either bear seed or that the bees would work on it.

Mr. Hawkins—It is a good deal like buckwheat, certain soils will yield and others won't.

Mr. Diebold—My bees are located a half mile from ten acres of alfalfa and I have never seen a single bee on the bloom.

Mr. Pyles—I have seen bees work heavily on alfalfa in the hot, dry weather, along the river bottom, near Rose Hill, but there was an ideal condition there, dry, hot air coming over the sand, with water close by.

This year when Mr. Kildow and I were at Minooka, Dr. B——— told us that he was south three or four miles, in the limestone country, and the bees were working heavily on alfalfa.

There are two cases, close to Rose Hill, and in this instance, where the bees worked heavily on alfalfa, and Dr. B———'s word would be like gospel with me.

Mr. Coppin—Out on the prairie—where I live, there are thirty acres of alfalfa within a few hundred yards of my bees and I never saw any bees on it. I have watched them; as soon as I would get up to the fence I would hear the bees singing but they were on the sweet clover by the side of the alfalfa.

Mr. Seastream—I have the same report to make.

Mr. Heinzel—My experience is like Mr. Coppin's; upon watching it for the last two years, I have never yet seen a bee working on alfalfa.

Mr. Bender—I have never been able to see it.

President Baxter—It is safe to say that generally they do not produce honey.

Mr. Stone—I have seen a good many different kinds of insects working on alfalfa but never saw any bees; there is a kind of wild bee that works on it.

President Baxter—Probably for pollen.

Question: Is sweet clover for seed profitable?

President Baxter—Who has raised it to know?

Doctor Phillips—You heard what Mr. Cloverdale said at Hammond last summer; that ought to pretty nearly answer that question.

Mr. Coppin—One gentleman lived in the same county as the man who asked the question. He had twenty acres there and I had some bees within reach of it a year ago this summer,

and he claims he made $1,500 from the seed—a Mr. Mills.

Mr. Pyles—When I was in Gundy County this spring, it was reported a man had thirty acres of sweet clover for seed last year. He mowed it about the twentieth day of May; he then let it go to seed, cut it with the binder and threshed it and sold it and he had warehouse receipts for the seed showing that he had gotten $130 an acre for seed, besides a crop of hay.

Doctor Baxter—My father had eighty acres of sweet clover; this year he got a crop of hay the first part of June; the first of September he cut that with a binder and threshed it with the threshing machine; he got seven bushels per acre and sold it at $14 a bushel in Chicago; he did not pay the freight.

Now, I don't believe you can beat that with any other crop.

Of course, if everybody was raising sweet clover the market price would go down; it is a hard crop to handle and to thresh.

Men don't like to handle it; they don't like to run that binder.

It is a crop that does not become ruined with rain.

After you get it shocked and piled up, you can leave it there almost indefinitely. This season ruined the hay crop but it didn't ruin the seed, and I don't know of anything that you can produce on the farm that will give you as much money for the number of acres. The crop practically amounted to about half the value of the land. We have tried alfalfa but it is not a paying crop with us; of course it can be used for feed at home or put in the silo or something of that kind, but it is not a profitable crop for us to market; you cannot make money out of it every year by selling it in this country.

Last year was a good one; we had about 15 acres of alfalfa and the crop was good as far as for hay.

Question: Should there be some standard as to the amount a hive should be assessed in taxing?

Mr. Hawkins—I think something might be said about that. It is a good deal a matter of conscience in figuring the amount that these might weigh. It might be a good idea if we had some such law in this country such as, where a man who has bees and puts a certain valuation on them, the state maintains the right to buy it from him at any time.

Mr. Diebold—I don't believe bees are assessed in my part of the country at all.

President Baxter—They are down our way, and should be everywhere.

Doctor Baxter — They are not assessed here.

Mr. Stone—They assessed me last year because I wanted them assessed. The Assessor said: "Here is a place down here for other products or other things." I said: "Put in bees there."

Mr. Coppin—The Assessor assessed mine and later he told me he had struck if off of the list because I was the only one in the township and he said it did not look very well to assess only one who had bees.

President Baxter — All property should be assessed, no matter what it is, if there is any value to it; bees and everything else should be assessed at its real fair market value.

Mr. Dadant—I think there is another argument. We are asking the legislature to support us and the legislature does support us by paying an Inspector, and giving an allowance to the State Bee-Keepers' Association, and so long as our business gets help from the state we ought to be allowed to return help to the state.

I know there is a good deal of neglect and failure in making statements. I remember once when the Assessor told me I was the only man in the township who had any jewelry. I found out the entire amount of jewelry in Keokuk was $600. The Assessor said he pitied the four jewelers with only $600 of jewelry in Keokuk.

Mr. Hawkins—There were only 20 watches in the county next to us last year.

Mr. Kildow—I think we ought to have our bees assessed, and I think then we can demand recognition from the legislature.

But, you say, poultry is not assessed; they raise hogs and sell them before the Assessor gets around!

I think we should pay taxes on bees.

Mr. Bowen—I have given in my bees at different times to be assessed and they said, "Oh, let that go, that don't amount to anything."

I noticed in looking over the assessment last year that a man that I know

is worth a thousand dollars to my one didn't pay as much taxes as I did. They have everything, but somehow or other it is covered up.

We want them to assess our bees; if they don't do it we ought not to have to stand over them with a shot-gun and, make them do it.

My bees have been assessed as long as I can remember.

Now they come to assess my bees not only once but twice; personal property should be assessed where one resides.

My apiaries out in the country, outside of my township, are assessed and the other township wants to assess them too.

Mr. Diebold—Is not poultry assessed in the state of Illinois?

President Baxter—Poultry is assessed down our way in all townships throughout the country.

Doctor Baxter—Men who produce fancy poultry for breeding purposes are assessed in this county, but ordinary chickens and the like are not assessed here.

Question: What per cent of European foul brood is found after the white clover harvest in comparison with the earlier season?

President Baxter—Mr. Kildow can answer that.

Mr. Kildow—I would like to hear from Doctor Phillips.

Doctor Phillips—All I can say is, most of the samples we get come in the month of June; it drops off very rapidly after that. We have had samples of European foul brood every month of the year.

President Baxter—Most of it comes before or just during the clover bloom.

Mr. Kildow—I can give you what we find.

We find a little the fore part of the season but not enough more to make much difference.

I found this last year: from the first until the last of the season, or to July first, we found 57 apiaries of American foul brood and we found 72 of European; that was from April, when we first commenced, to July first.

From July first to the end of the season we found 61 apiaries of American and 34 of European.

From July down we found 61 of American and 34 of European.

Doctor Phillips—You found less than half as much the latter part as the first?

Mr. Diebold—When I examined my bees during fruit yield blossom I found very little foul brood, and in June I found lots of it in the same apiary.

Mr. Kildow—You might get your affection in May and it did not show up until June.

Mr. Pyles—In the figures Mr. Kildow gives, he takes into consideration the early part of the season; I did most of my inspection before the first of July, and it was all in European districts. All my work was done practically in European foul brood districts; the after part of the season goes into American foul brood districts nearly entirely. That must be taken into consideration when we take up these figures.

The fore part of the season my work was done in the eastern part of the state. My work was done in the district where we find almost entirely European foul brood.

I feel very sure if I had been going after that same territory in the after part of the season I would have found none.

Five years ago when Doctor Phillips and I were over in the state he said to me: "One thing I cannot understand, Mr. Smith never found one case of European foul brood while he was Inspector and you and Mr. Kildow have been finding it right along."

We found it in the east part of the state. We found all of it (all but one apiary) after the 12th day of July. Doctor Phillips does not get any of our figures any more. We used to send a sample; when we would write to him and enclose under separate cover sample of European foul brood, Doctor Phillips would write back and say: "We find your diagnosis correct." Sometimes it is so plain it is not necessary to send it to the Department at Washington to examine this matter.

Another thing: The fore part of the season, when you are providing for the white clover crop of honey, if the people are trying to do anything, they are trying to get their bees into condition to father a crop of honey, and, if anything is wrong, they are apt to look at it and take a sample, but if they get honey they don't care about their bees and are not going through the hives to examine the inside of

their hives; I don't think they themselves know what the condition is until afterwards.

Doctor Phillips—European samples of foul brood come the first part and American is scattered throughout the entire summer.

I know that is the way it works.

June has the highest mark.

Mr. Stone—Is it possible that in the early part of the season when working with the bees you can notice European foul brood and that later it is so absorbed?

Doctor Phillips—European foul brood very frequently disappears in the latter part of the season. I don't believe it is safe for an Inspector, for instance, to give a certificate of health to queen breeders—for a queen breeder's yard, after the white clover honey. There might be European foul brood there which the Inspector could not see at all.

Mr. Diebold—Last year, last season, I had a colony of bees in which I found there was foul brood in it but the season was not right to treat them at that time; it was such a drought, weather dry; I concluded to leave them until spring, but marked the hive.

In the early spring I opened the hive and examined them and could not find any foul brood, and even the queen was gone. I gave it a new comb with larvae in it and they reared a queen and later on I examined and could not find any trace of foul brood, and I got some surplus honey from that colony.

Mr. Pyles—I would say, Mr. President, whether he was trying to treat his bees or not, unconsciously he treated them; the colony was treated; then he reared the queen; it does not make any difference whether it was reared in that colony or another.

I have had this year in my own experience, in a colony that I killed the queen and let them rear a queen early in the season. At first it didn't show European foul brood and later showed plenty of it.

I am sure that what he did was practically the same as I did, but I took two weeks at it and he did it only once.

Mr. Kildow—Doctor Phillips, what is the law in regard to shipping queens from a foul brood apiary?

Doctor Phillips—The postal regulations require that a queen breeder shall have a certificate from a duly qualified Apiary Inspector that there is no evidence of disease. Certain states do not have any Apiary Inspector.

Mr. Kildow—We have, I think, one or two breeders in the state who are breeding queens and shipping them throughout the country that have no certificate.

Doctor Phillips—They can still ship without a certificate if they certify that they use boiled honey.

Mr. Kildow—I know one party asked me if he could not ship by express. I told him he had better not sell any queens until he got his apiary clean.

A member—If you will read the law. It is against the law to either sell or offer for sale either bees or queens or fixtures from a diseased apiary.

Mr. Dadant—The question is, whether a man can ship queens without a certificate.

Doctor Phillips—If there is a question whether the Postoffice regulations are being enforced, the Postmaster will be glad to attend to it.

Mr. Hawkins—A man who will ship queens out of his yard that are diseased is a crook.

Mr. Coppin—The disease is supposed to be in the honey and not in the bee.

Mr. Hawkins—A man who ships queens out of his yard if he knows the yard to be discussed is a crook, because you can convey the disease through the bees—through the queen—as well as through the honey.

President Baxter—As I understand the law in this state you can ship bees without a certificate, but, if you do so when you know you are infected with foul brood, you are taking great chances, and if any queen breeder is suspicious of having European foul brood he should be inspected by an Inspector and should be stopped from shipping if he has the disease.

We will stand adjourned until tomorrow morning at 9 o'clock.

SECOND MORNING SESSION.

Meeting called to order by President Baxter.

President Baxter—The first thing this morning, we will hear from the

committee that was appointed to draft resolutions in regard to the Fair Grounds proposition—Mr. Dadant.

Mr. Dadant—The Committee appointed begs leave to report as follows:

Be it resolved, By the Illinois State Bee-Keepers' Association, an organization incorporated February 26, 1891, under the laws of Illinois and recognized officially by the State of Illinois:

Whereas, The members of the Illinois State Bee-Keepers' Association consider that their interests need greater representation at the Illinois State Fair; and.

Whereas, If a greater space is allotted to their industry and a larger amount paid in premiums, it will help increase the demand for honey and thereby encourage their industry; and

Where, Other states such as Minnesota have a much greater recognition in this line;

Therefore, Be it resolved by the Illinois State Bee-Keepers' Association in meeting assembled, that we request the Illinois Board of Agriculture to erect a separate building for the exhibits of bees and honey with a special room in said building for the demonstration of manipulations such as the extraction of honey from the comb, to educate the people as to the true nature of our products.

Respectfully submitted,
EMIL J. BAXTER, Pres.
JAS. A. STONE, Sec.

Mr. Dadant—We move the adoption of this resolution, Mr. President.

Motion seconded and carried.

Mr. Kildow—Would it not be well, provided they will not build that room, for us to ask them to have all the room we have been occupying?

President Baxter—We will have to do that anyway, Mr. Kildow, if they cannot build a building in time. We will want to keep all the space we can get.

Mr. Stone—Mr. Kildow referred to having the whole "L".

Mr. Kildow—I referred to taking out the vegetables and letting us have that center.

President Baxter—This committee can make it their duty to see to getting it until we have a new building provided.

President Baxter—The next thing in order will be the essay of Mr. Dadant —'The agency of bees in the fertilization of flowers."

Mr. Dadant—Mr. President, I was going to say I was afraid that the bee-keepers present are pretty well aware of the facts that I have stated in this paper; they are generally well posted on the fertilization of flowers, but this subject I think is a good one to insert in a report because it is read by farmers who often imagine bees injure their flowers and fruit instead of doing them good.

That belief is dying away but there are still a great many people who do not know the real facts.

I take it for granted you all know that which I am going to read. I don't think there is much that is new in what I have written; I am simply bringing those facts more plainly before bee-keepers and fruit growers.

"THE AGENCY OF BEES IN THE FERTILIZATION OF FLOWERS."

Mr. C. P. Dadant.

The question which I have accepted the task of answering today is: Are bees useful or necessary in the fertilization of our fruits?

Bees gather both pollen and honey from the blossoms upon which they work, pollen for the breeding of their young and honey both for the brood and for their own food. But it is not generally known why the wants of bees are supplied by the floral world. Investigation shows us a meaning to the existence and the relation of insects and flowers.

Plants blossom in order that seed may be produced. The flower of each plant is an intricate problem. Before the seed is produced pollen from the anthers must reach the part called the stigma, or in other words the male part must supply its fertilizing substance to the female part, the seed-bearing pistil, of which the receiving part is the center stem or stigma. Some flowers bear both a number of anthers and the stigma in the same corolla, some flowers are self-fertilizing; others, though possessing both organs, are unable to fertilize their fruit without aid; some other flowers are incomplete, having only one of the organs perfect while they have to rely on other blossoms for the other organ.

For instance, some strawberries are called 'pistillate," having a pistil but no anthers, a female organ, but no male organ. In some flowers the male and female organs are placed at different parts of the plant, as for instance in corn, where the male organs are at the tassel and the female organs at the ear. In these plants the pollen furnished is so plentiful as to scatter in all directions and, as in the case of the ragweed, cover the clothes of people when they tread among them.

It was at first thought that flowers which possess both male and female organs were easily self-fertilized, that all that was necessary was for the pollen to fall from one upon the other, especially when it was noticed that the anthers were usually placed higher than the stigma. But experiments made have proven that if blooming trees, such as peach, cherry, plum, pear or apple, are covered with light gauze to exclude all insects during the period of blooming, very few blossoms are producers of fruit. In some experiments, as for instance in a test made by the Florida Experiment Station in 1898, and recorded in the American Bee Journal of that year, two isolated peach trees were tested comparatively, one being covered with gauze, the other left open to insects. The one produced not a single fruit, the other was covered with fruit. This is not a lone experiment, for it has been tried many times. It is also well known that when fruit bloom takes place in unfavorable, cool, cloudy, or rainy weather, there is little if any production of fruit. Then sometimes fruit will be found on the sheltered side of a tree where bees have had occasion to work, while the other side, exposed to strong wind, has failed.

But when flowers are incomplete, when a certain kind of strawberry, for instance, has blossoms bearing only pistils, the conditions are still more strenuous for the agency of outside forces and not only must those forces be present but other plants of the same species, with pollen-bearing anthers, in profusion, must be present in sufficiently close proximity.

Now let us see how bees and other insects serve in this connection.

Honeybees and many of the hymenoptera feed their young upon a mixture of pollen and honey. The worker-bee is provided, upon the third or rear pair of legs, with a cavity which enables it to carry quite a load of pollen. Many persons who see it thus loaded imagine that it is wax that it carries; but wax is a product of digestion, made of honey. The pollen is gathered while the bee visits the flowers. In some flowers it is so easily shaken off that the minute hairs which cover the body of the insect become sprinkled with it. The bee then brushes itself with the front and middle legs and forces the pollen into the pollen basket, where it is packed by repeatedly pressing it. This proceeding may be easily watched by anyone while bees are upon flowers that yield any quantity of pollen. It is easy to understand that, during these maneuvers inside the corolla of a blossom, particles of pollen are shaken or rubbed onto the stigma of the flower and fertilization takes place. But this is not all. As a rule the anthers of each flower are a little ahead of the pistils in development. So it often happens that, when the pollen is fit for fertilization, the female part of the blossom is not yet ready. But as the bee goes from one blossom to another the pollen carried by her serves for other blossoms which are nearer maturity. Thus cross-fertilization is accomplished, with greater fertility as a result, since it is well-known that no beings in the world are as successful in close inbreeding as in cross-breeding. Not only is the pollen carried from one blossom to another, but from one plant to another, from one tree to another. Thus are pistillate strawberries fertilized and made to bear fruit, provided there be other strawberries bearing anthers in close proximity. It is also because of this agency of bees that there is a hybridizing of fruit and the explanation is furnished of why peaches true to their kind cannot be reproduced from the pit usually. The pollen from unbudded trees is carried by insects and bees most especially to the flowers of the budded varieties and, if seeds were planted, inferior fruit would be the result. It is a fact worthy of notice that the fruits which are nearest in condition to the original wild kinds are the most profuse bearers of pollen. In order to secure improved varieties as does the great Luther Burbank, it becomes necessary to resort to artificial fertilization.

To make sure of the need of insects in the fertilization of our fruit trees

is not difficult. Cover a small branch of well-developed buds with light gauze, thre or four days before the opening of the first flower, and keep it thus covered till the bloom is entirely gone. The result will be a minimum of set fruit on that branch in almost any variety of fruit tree.

Insects and bees especially are needed, not only in the production of fruit, but in the securing of seed as well, in many of our useful plants.

None of the clovers can be fertilized without the agency of insects. Red clover, as is well known, does not furnish much if any seed at the first crop. Red clover has this peculiarity of possessing a corolla so long and deep that the honey bee and other small insects cannot reach to the bottom of it in average seasons. It is only during the very dry years, when the corolla is dwarfed, that the honey bee can reach its honey. The bumblebee becomes indispensable to its fertility and, as bumblebees are very scarce in early summer, the result is an almost entire lack of formed seeds in the first clover crop. But in very dry years the red clover bloom has been short enough to enable the honey bees to work upon it during the first crop and in those years farmers have noticed an abundance of seed.

Darwin was the first man to call attention to these facts. When red clover was imported into Australia, it produced no seed. Darwin ascertained that there were no bumblebees there and advised the importation of them into that country. Henceforth red clover produced seed there as well as elsewhere.

Not content with all these evidences, some of our educators have made additional experiments. Bulletin No. 289 of the United States Department of Agriculture, dated September 21, 1915, gives a detail of experiments conducted by J. M. Westgate, Agronomist, with the collaboration of H. S. Coe, assistant; also Messrs. Wianco and Robbins of the Indiana Agricultural Experiment Station, and Messrs. Hughes, Martin and Pammel of the Iowa Experiment Station. The latter, who is Professor of Botany at Ames, attended our field meet at Hamilton in September, and gave us a very interesting lecture on honey plants. The Bulletin in question gives an account of experiments conducted simultaneously by these gentlemen on "the pollination of red clover."

I cannot very well go into all the details of these experiments. It is sufficient to say that they have added to the evidence furnished by Darwin and other early scientists. They prove that, although it is possible to have an occasional seed produced from self-pollination of clover, the plant is practically self-sterile and pollen must come from a separate plant in order to effect regular fertilization.

In these experiments, clover heads that were covered with tarlatan and not in any way helped to pollinate produced less than an average of one seed for every ten heads. Clover heads that were left to the agency of insects produced an average of over 50 seeds per head.

If we were to hunt among the reports published at different times in our bee magazines, we could bring out some marvelous incidents, relating to the benefit secured through honey bees for the pollination of fruit blossoms. For instance, a few years ago, before the honey bees became a source of revenue in the irrigated plains of the Great West, a fruit grower planted some 20 acres in cherry trees in a newly irrigated valley. To his great astonishment, although the trees bloomed profusely, not one cherry was produced, until someone suggested that bees were needed. Some colonies of bees were purchased and, from that time on, the crops of cherries were regular and full. On the Snake River, in Idaho, the early settlers who built their homes and planted orchards in the few moist spots, some thirty years ago, found need of the bees to fertilize their fruit. Now, wherever there is fruit produced, they have the bees at the same time and the reward comes both in fruit and honey.

Mr. Dadant—Since I wrote this I was sent for review a book entitled "The Apple," and of course the apple, a book entitled "The Apple," is out of place in the American Bee Journal; that is, a review of it is really in its place in a horticultural journal, but I found this in it, which I think will interest every one of you. On page 417 it says:

"The pollen of one variety is carried to the pistils of another in two natural ways—by the wind and by insects. Bees, wasps and flies aid in the cross-pollination of orchard fruits, and of

these the wild bees of several species are probably the most important. But few of the wild bees can live in a large orchard, especially if it is well tilled; therefore, as the extent and thoroughness of cultivation increases, the number of these natural aids to cross-pollination decreases and it becomes necessary to keep domestic honey bees for this purpose."

"Every large orchard where the trees are numbered by the thousands should have nearby a bee yard of at least fifty swarms to help in thoroughly pollinating the blossoms and obtaining the best results.

"Bees will not be poisoned by the spraying of fruit trees with poisoned substances if the work is done at the right time, which is just after the blossoms fall. No sensible orchardist will spray his trees when in full bloom and thus poison one of his best friends —the bees."

President Baxter—This paper is now before you if you wish to discuss it.

President Baxter—The election of officers is the next on the program.

First is the election of President. Who will you have for your President?

Mr. Stone—I nominate Mr. Emil J. Baxter of Nauvoo, Ill.

Mr. Bowen—I second the nomination.

A member—I move the Secretary be instructed to cast the vote of the Convention for Mr. E. J. Baxter.

Seconded and carried.

Mr. Stone—I hereby cast the ballot for President for 1916—Mr. Emil J. Baxter of Nauvoo, Ill.

Mr. Baxter—I enjoy the position and try to do the best I can for the bee industry in the state, nevertheless I am getting on in years and I cannot do so much as I used to when I was younger. I thank you very much.

President Baxter—The next in order will be the election of five Vice-Presidents.

I will appoint Mr. Hawkins and Mr. Kildow as tellers.

Mr. Dadant—I would like to know who are the present Vice-Presidents.

Mr. Moore—Coppin, Doctor Baxter, Henry C. Dadant and J. W. Bowen.

Mr. Dadant—I think it would be a good idea to vote for the people who are present, as much as possible.

President Baxter—While they are counting the votes I might bring up the National question. We were to make that a special issue for this morning.

Now, what is your pleasure in the matter? Do you want to keep affiliated or do you not? A motion will be entertained either way.

Mr. Bender—I think we ought to have testimony from members of the National who will tell us what they have been getting. I am not a member.

President Baxter—You heard my report, didn't you?

Mr. Bender—No, I did not.

Mr. Coppin—Won't it tell the sentiment by the way the members are paying, whether they want it or not? If they have not paid their dues to the National, I should think we might drop it. I just paid for the Illinois.

President Baxter—Not a single one has paid for the National.

Mr. Stone—Yes, two or three.

Mr. Bowen—As I understand it, we can belong to the National whether the Illinois Association affiliates or not, but the question is as to whether we shall affiliate with the National. Personally I have no objection to it but if there is no benefit I don't see that we need to. I have not seen any detriment in belonging to the National except that we send our representative, and he reports against the National; that he can't have his way; that they pull hair and fight; we can do that here if we like; if that is all there is to it, I don't see why we should belong.

I have no objection to the Review. I think the last article in the Review was worth the price of it. I think it was one of the best articles I have ever read.

Doctor Phillips—I think it was worth the price of the Review. I am with the majority. I want to belong though, even though you don't consider affiliating.

President Baxter—Is that a hit at me?

Mr. Bowen—Were you our representative?

President Baxter—You got a little off; I did have my own way there.

Mr. Bowen—Then why did you object to it so?

Mr. Dadant—He is among the offi-

cers and doesn't like it; he is on the Board of Directors.

Mr. Bowen—When Brother Dadant was President of the Association we didn't hear any wrangling.

Mr. Dadant—That involves me; I will have to answer that. Mr. President, I must say that I am partly responsible for the existence of the National under its present conditions. At the meeting in Minneapolis five or six years ago we had a number of young men there, Mr. Tyrrell, Mr. Gates, Mr. Phillips, who were all very anxious to see the National go ahead; create a sort of union, co-operation among bee-keepers.

I have been with the National so long, and we have tried so long to make changes—I was one of its officers. In fact I filled every office in the National from Treasurer to President.

I had lost faith; when I saw those young men with enthusiasm I said, "Boys, let's go in."

I had Mr. France tell me he was overloaded as Manager of the National and could not keep it up much longer. And I thought—"Here is a chance to let Mr. France have it easier and let the young fellows pitch in," so I put my heart and soul into the re-construction, the making of the new constitution, but Mr. Tyrrell lost heart after one year.

I think the great mistake he made was to set Mr. France aside rather rudely, telling the people openly there had been nothing done and that there was now going to be something accomplished.

Mr. France had worked faithfully and done lots of good and he resented it and of course worked in opposition; that has done a great deal of harm; I don't blame him.

Then the management saw fit to buy the Review. It was never known how it was managed. I was Treasurer at one time and only part of the funds came in and the other part was kept by a man in charge of the Review.

Those of you who were present, when we joined the National, remember that our Secretary, Mr. Stone, was opposed to a new organization. I fought for it and finally won over Mr. Stone and he became as enthusiastic as I was.

We were the strongest, when I represented this State, Association represented in the National; the one that had the greatest number was Pennsylvania.

I dropped out because there was a feeling that as I became Editor of the American Bee Journal there might be antagonism and I dropped out entirely from taking any active part in it.

If you drop the National I believe it would be a good idea to still send a representative there, not exactly to vote, but to see what is done and report to the Association here, so that if the National improves, if it goes ahead in any way, you can be informed by your representative; this is simply a suggestion. I want it understood I worked hard for it at one time but am now standing in the background.

President Baxter—We will drop this matter for a while and hear the report of the tellers in the election of the Vice-Presidents.

The report of the tellers—as follows:

Mr. Coppin—13.
Mr. Baxter—9.
Mr. Dadant—9.
Mr. Kildow—8.
Mr. Bowen—7.
Mr. Hawkins—7.

Mr. Dadant—I would like to withdraw my name from the number of Vice-Presidents; I have been President of this Association and I don't feel it is at all necessary I should serve; I am a great talker and you cannot talk so much if you are Vice-President. I would rather let those two who have seven each drop my name.

President Baxter—You have heard Mr. Dadant's request; let it be granted and the two who have seven be elected.

The Vice-Presidents for the ensuing year are:

Coppin, Dr. Baxter, Kildow, Bowen, Hawkins.

President Baxter—The next in order will be the secretary.

Mr. Dadant—I wish to nominate our former Secretary, who has been so faithful for years and years—Mr. James A. Stone.

Motion seconded and carried.

Mr. Dadant—I move you, the President be instructed to cast the vote of this Association for Mr. James A. Stone, Secretary.

Motion seconded and carried.

President Baxter—I cast the vote of this Association for Mr. James A. Stone for Secretary the ensuing year.

President Baxter—The next thing in order is the election of Treasurer. Who will you have for Treasurer?

Mr. Dadant—I don't believe we can get a more accurate Treasurer than the present Treasurer, Mr. Becker. I nominate Mr. Charles Becker.

Nomination seconded.

Mr. Pyles—I move the nominations be closed and that the Secretary be authorized to cast the vote of this Association for Mr. Charles Becker for Treasurer.

Motion seconded and carried.

President Baxter—It is so ordered.

Mr. Stone—Treasurer for 1916, Mr. Charles Becker of Pleasant Plains.

President Baxter—That ends the election of officers. Now I would like to entertain a motion appointing the same Executive Committee we now have, for the ensuing year, because these resolutions have to be presented to the legislature; there will be more or less legislation to be looked after.

I was buttonholed by one of our representatives, and it appears that the House of Representatives and the Senate have locked; hence the possibility is we will have no further legislation this summer. It is Chicago against the rest of the state, it seems like.

We want this Legislative Committee to look after our interests here because we want those extra $700 and we may have to work all summer to get that.

Mr. Becker—I thank you very much for my re-election. I have been Treasurer a good many years and I once said this, and what I always could say and will say: Whenever you send me an order, if the Secretary sends me an order signed by our President, your money is ready for you any time and any quantity. I receive the mail on one train and the check is mailed on the next train; we get mail by 11 o'clock and I generally send it out by two o'clock or so that evening.

I am unfortunate in losing my hearing. I have been Secretary of the Masons for fifteen years, Secretary of the Odd Fellows for many years; I have been Clerk for the Modern Woodmen for twenty-seven years, and we have an election next Monday night, and I don't know whether I get it back or not. I told the boys last year when I was elected: "If you can stand my not hearing, I am willing to serve."

I always run the business in a straight, upright way, and never had any trouble with the head clerk.

I have been here at this Convention the second day and I tell you honestly I don't know what has been done.

I thank you very much.

President Baxter—Ladies and Gentlemen, what is your pleasure about this Executive Committee?

Mr. Pyles—I move that the present Executive Committee serve for the ensuing year.

Motion seconded and carried.

President Baxter—The present Legislative Committee will so serve—Dr. Baxter, Mr. Baxter, Mr. Stone.

Mr. Withrow—We have with us Mr. George W. Williams of Redkey, Ind., and he has a paper that he would like to read—"One Promising Outlet for Dark Honey"—I would like to hear from him.

President Baxter—Just as soon as we can get through; we had a special meeting last night that we might get through this morning as some want to catch an early train.

You have not decided on what we shall do about the National. We want that decided one way or the other; if the Association wants to affiliate as an Association and pay extra dues we want to know it and if not we want to know that, too.

Mr. Pyles—I think if we get this in the form of a motion we can get it in some shape to vote on, one way or the other, I move that each person be allowed to use their own judgment whether they wish to join the National Bee-Keepers' Association or not, and that this Association accept dues of $1.00 for each member for here.

Mr. Stone—Second the motion.

Mr. Kildow—Part of that motion is already in effect; we can pay our $1.00 and stay here.

Mr. Pyles—I change the motion—that we do not affiliate as a body.

President Baxter—Is there a second to that motion?

You have heard the motion—are

there any remarks to be further made on the subject?

Mr. Diebold—If we do not affiliate with the National, what will be the admission into the National?

Mr. Dadant—$1.00.

Mr. Diebold—We do not get the Review, either.

Mr. Dadant—Allow me to state: That depends entirely on the publisher of the Review, if he is willing to accept the two together; I don't know just what he gets; the Constitution has never been lived up to and the matter has been changed by him a number of times. He furnishes the Review—that is his lookout. I believe you would have to pay more than $1.00; something like $1.50.

Mr. Williams—$2.00, is it not?

Mr. Dadant—When they reorganized it was $1.00 for membership in the National and the Review. Now that he owns the Review, I don't know what he will do but, if you send to him, he is perfectly honest and you can depend on his treating you right.

Mr. Williams—I am not a member but according to the Constitution that was adopted there last year, in Article 4, Section 3, this body or any other body can affiliate as a body and can have one vote for every fifty members; that does not state that they have to pay dues for each member. This is Article 4, Section 3, if I remember the wording.

Any Association can affiliate by resolution and then it has to be acted on by the National at its first meeting; then lower down it says that individuals pay $2.00; when they don't pay that they are dropped. $2.00—and half of that goes into the subscription fund and half into the general fund. The subscription fund is supposed to pay for the paper; you don't have to take the Review unless you want to.

Mr. Baxter—The question is this: That this Association discontinue to affiliate with the National.

All those that vote aye will mean to discontinue the affiliation; no, means to continue.

All those in favor of the motion signify it by saying aye; contrary—no.

Unanimously adopted.

Mr. Baxter—We are no longer affiliated with the National.

President Baxter—Is there anything else on the program? We are ready for Mr. Williams' paper if it is the wish of the society.

Mr. Stone—If there are any here who want to unite with the society and pay $1.00 we are ready to receive it at any time.

Mr. Hawkins—I move Mr. Williams be given the privilege of the floor.

Motion seconded and carried.

Mr. Williams—This relates to having the use of honey taught in schools.

A paper by Mr. Geo. W. Williams of Redkey, Ind.:

ONE PROMISING OUTLOOK FOR DARK HONEY.

A decade ago, Geo. W. York told us it was not over-production, but underconsumption that ailed the honey market. Since those words were uttered, the ratio of production has remained practically unchanged, although about twice the amount of honey is produced and consumed today as when those words were uttered.

Even with this large increase, the honey market of the United States is really undeveloped, and capable of enormous expansion.

In our pessimistic moods, we are inclined to view with alarm the widening alfalfa and sweet clover areas, the rapidly awakening interest in the south, and the rapid increase of specialists with their automobiles and outyards.

But so long as only approximately one home in a thousand uses honey consistently throughout the year, and so long as six homes out of every ten do not know the taste of honey eleven months out of the year, and three out of every ten never see it at all, the conditions are not so discouraging, after all.

As a business proposition, we must face the certainty of a very large increase in production of honey in the next few years, and, if prices are even to be maintained at the present prices, new customers must be secured, and new uses must be provided to absorb the increased supply.

This will not come by chance. In these modern days of keen competition, results come only from following carefully conceived policies of preparation and education, sometimes covering considerable periods of time.

In other days, when men lived closer to Mother Earth, and the elementary methods of publicity prevailed, and when real merit was the determining factor in the selection of food for the family, honey was deservedly placed at the head of all the good things.

Modern advertising methods and practices have, temporarily, let us hope, caused the buying public to neglect it for articles of lesser merit, but greater publicity. The publicity that is necessary under modern circumstances for any food product, no matter what its merits may be, if it is to maintain place and prestige in the estimation of a fickle public.

This is true in the face of the fact that no food product given to man for his sustenance, with the possible exception of milk, is so high in food value, so delicate and appetizing, so attractive to the eye as honey. These abstract truths regarding the excellencies of honey are firmly implanted in the sub-conscious mind of every one who reads the Bible, Ancient or Current History or literature, or listens to the traditions of the fireside; it only needs the suggestion of a handsome display or a neat card placed side by side with a display of Korno or similar products that attempt to usurp the place dedicated to honey in every mind, to arouse this sub-conscious sentiment and belief in the superior qualities of honey. But, the Korno people are pushing their product, and the honey people are not. You will see Korno attractively displayed on half a million shelves, "Boosted" on ten thousand bill-boards, its praises sung by their publicity agents in the press and masquerading in borrowed plumes in ten million pamphlets and dodgers. In the meantime, honey is not seen on the shelves, no pictures appear in the windows, no publicity in the papers, and the bee-keeper sits tight, doing nothing and keeping eloquently silent. So, as a natural sequence, Korno is bought, honey is leglected, and the children's teeth and stomachs pay the penalty.

This is no fancy picture. It is the plain truth, that can be demonstrated in ten thousand groceries. The exceptions where honey is prominently displayed prove the rule that honey is discounted by a lack of energy on the part of the bee-keepers who fail to force it to the notice of the public.

The time was, when "honey was honey," and any of the scores of different colors, flavors or bodies would be accepted without question. A discriminating public now selects the choicer table grades, which find a ready sale at fair prices, but the off color grades are neglected, and bring low prices, with a tendency to drag down prices of all grades.

The profitable disposition of these darker grades is the big thing for present consideration. These honeys contain all the sterling qualities of the lighter grades, and are just as desirable for all purposes except for the table, where a light color and mild flavor are desirable.

When we find a profitable use for all these darker grades, then a long step has been taken to relieve the unsatisfactory condition of the honey market. It is the purpose of this paper to suggest a possible means to accomplish this end.

We now have, in most of the states and soon will have in all, an army of patient, competent school teachers whose business in life is to teach the coming generation what to eat and how to prepare it. I refer to the Domestic Science instructors in our Public Schools.

These teachers are sincere and unaffected by the perorations of the publicity people of any food product. They place each article offered for their consideration strictly on its own merits, and we bee-keepers are willing, yes, anxious, for honey to meet the test of merit in competition with Korno, or any other food value on the face of the earth, bar none. Honey will not suffer when it comes to a test of real merit.

This department of our Public Schools is comparatively modern. Its systems are not universally organized in all the states. It is not the wish or intention of the bee-keepers to transgress the bounds of propriety and courtesy in suggesting that the sterling value of honey as a sauce, delicacy or staple food, should receive due consideration in the course of study.

And, in order to avoid even the taint of individual commercialism, it is fitting that the various bee-keeping associations, representing the industry as a whole, take the necessary steps to have the value of honey as a staple food, as a sauce, and especially the

value of the darker grades in cooking, taught in the Domestic Science departments of our Public Schools throughout the states.

This matter will be presented to a number of State Meetings this fall, and I would suggest that committees composed of the best material obtainable be appointed from the various associations, to arrange for this instruction. These committees should co-operate with each other, and collectively can wield the necessary influence to attain the desired results. In the selection of the members of these committees, due attention must be given to the selection of persons familiar with the working of the Domestic Science machine, and the ethics of the profession.

We offer the best services of our paper to assist in the work, and we are sure the journals will lend their aid. This is an opportunity that must not be neglected. We are all partners in this business and must work in harmony with each other. We will remember that the ups and downs of the bee-keepers in one locality affect the bee-keepers in all other localities. We must realize that the low price paid for the dark buckwheat honey or the dark honey from the south or elsewhere drags down the price of your choice honeys, in your market. There is no getting away from the fact that we must consider our business as a whole, and work for its uplift in a broader sense, and get away from the narrow, selfish viewpoint.

The bee-keepers are realizing this, and from every region we are receiving assurances of support for a propaganda of wider and more general publicity of the excellencies of honey.

GEO. W. WILLIAMS,
Redkey, Ind.

Mr. Baxter—We have a little time: if it is the wish of any of the members to discuss this paper it will be in order now.

Mr. Dadant—Mr. President, this statement comes exactly in line with a statement made to me by Mr. Pellett; Mr. Pellett was Inspector of Iowa State Bee-Keepers' Association and he is with us now at Hamilton for a few months.

Mr. Pellett says the great mistake has been in not having representation of the bee industry in Colleges, in State Agricultural Associations, and he brings this as evidence: When oleomargarine was discovered there was a protest raised all over the United States by the representatives of the dairy industries, in Colleges, in State Agricultural meetings, everywhere, because the dairy is powerful; the result was the people will not buy oleomargarine if they can afford to buy butter, and yet oleomargarine is very much like butter. Many of us do not know when we eat oleomargarine.

In a hotel in Illinois, once, at breakfast, I had by me a traveling man whom I didn't know. He took a little butter and put it on his bread and bit into it and said: "This is the real stuff." I said "what?" He replied "Oleomargarine." I asked him how he knew and he replied that he manufactured it.

I could not see any difference from common butter.

But in the matter of honey why, honey is something like three times as sweet as corn syrup. I was told that corn syrup had about three per cent of saccharine matter; honey has something over eighty per cent.

If people will taste honey and corn syrup side by side they will readily notice one is a great deal more sweet besides being the straight article.

Why is it people buy corn syrup and think it is so nice? Because nobody has been protesting against the use of that stuff and urging the use of honey.

Once in a while in a meeting of eight or ten bee-keepers, they talk about it and that is all there is to it.

If we were as active as the dairy industry we would have raised a big protest all over the country and tell people not to buy corn syrup, and why, and to buy honey.

It is time yet—we may talk corn syrup although it is pretty well established by this time.

President Baxter—I will announce the Committee on Fair Grounds Building.

I will appoint Mr. Coppin as Chairman of that committee; he is comparatively a young man and he can boss; Doctor Baxter as another, because he lives in Springfield, although I think we are imposing on him too much because he lives in Springfield; he is close at hand and knows the Agricultural Society Directors; Mr.

Kildow, State Inspector, as the third member. He has more or less connection with these men throughout the state; and I think that will make a strong committee. Every member of this Society should help.

Mr. Kildow—I would like to see another member added to that committee.

President Baxter—We provided for only three.

Mr. Kildow—I would rather drop out and put in Mr. Dadant.

Mr. Dadant—I am not near enough.

Mr. Coppin—I am 100 miles away from Springfield.

President Baxter — That doesn't make any difference.

President Baxter—Is there anything further? What is your pleasure?

Mr. Pyles—Mr. President, is it necessary at this time to take any action as a body now after dropping out or not affiliating with the National? Should we fix by vote the dues that we must have—are we going to allow the Chicago-Northwestern to come in for less than $1.00 per member, or how are we going to do this?

President Baxter—That is already fixed by our constitution and By-Laws, unless you want to change them.

Mr. Pyles—Suppose the Chicago & Northwestern do not affiliate with the National, are we going to take them for 50 cents or $1.00 from now on?

As I understand it each individual member who wishes to join the National has to pay $1.00 and $1.00 for the Review, and how much is it going to leave for us?

President Baxter—We are not going to have anything to do with it at all; that has to be done individually.

Mr. Stone—It does not prevent us from still continuing the same benefit to our members we have always had if we do not affiliate with them. If they pay us $2.00 we can send $1.50 (50 cents for the National and $1.00 for the Review) and keep 50 cents ourselves.

Mr. Dadant—Not now.

Mr. Kildow—That is not fair to all your members; some members get in for 50 cents and some for $1.00.

Mr. Stone—Then we will have to ask 50 cents more.

Mr. Dadant—But we have decided not to affiliate with the National any more.

President Baxter—I notified the members here yesterday that if they wanted to join the State Society they could do so by paying $1.00 but not to pay until this matter of the National was decided, and if our Secretary accepted any money more than the $1.00 he did so erroneously because it was plainly here stated by myself yesterday that until this question of containuing affiliation with the National was settled we would not receive any funds toward the National.

Mr. Hawkins—That is my understanding.

President Baxter—If these dues are accepted, Mr. Stone will have to return the $1.00 and they will have to take it up with the Secretary of the National.

Mr. Bowen—I don't understand simply because you put out that notice yesterday that fixes any obligation on anybody until the organization has acted on it. Anybody who paid under the old rule. Now the Association has acted on it.

President Baxter—You cannot pass an ex post facto law. If you accept money to continue something which has not yet expired. The membership in the National does not expire until this meeting has adjourned sine die; if you pay anything towards those dues you pay before it expires, therefore it does not count.

Mr. Bennett—There is no law in the United States made retroactive. We paid our dues here to the National, then you pass your law; you can't make that law retroactive and make it in effect before you pay that $1.00 because we pay that $1.00 first you have our $1.00, then you make your law and your law becomes in effect when you make it.

President Baxter—You cannot take advantage when you see that anything is going to take place, for instance: A rise in taxes or anything like that, you can't take advantage of a rise by offering your taxes before they are due simply to get the rebate; and that is what this would be.

Mr. Bowen—Nobody knew how that vote was going to go yesterday.

President Baxter—You cannot pay your dues when you think it is going to be out of existence and pay them before the vote is taken so as to keep in; you have to wait until your time has expired before you pay your money for a continuance and that does not expire until we adjourn.

Mr. Bowen—Thinking so does not make it so; you anticipated what might happen; suppose it turned the other direction, then what?

Mr. Stone—We used to pay $1.00 for membership in the National and in the State; when we were affiliated with the National we paid them 50 cents and we kept 50 cents, and in our Convention we took advantage, just exactly as paying the $2.00 now would be, before this was settled; we took advantage of membership in the National for one year ahead when they had changed their ruling to $1.50 and the President didn't rule us out—why not do the same in this instance?

Mr. Hawkins—As I understand parliamentary law, the President has a right to make a ruling now and that ruling stands.

President Baxter—That is not exactly the parliamentary law; the parliamentary law is that the President is your Executive; he passes on all rulings and his ruling is absolute law unless he is repudiated by a majority of the members; all you have to do is to vote his ruling down if you do not want to sustain him.

Mr. Dadant—This is not a matter of Constitution and By-Laws, but is simply passed upon at each meeting; this would make our President right.

Let me read to you from our Constitution:

"Any person interested in Apiculture may become a member upon the payment to the Secretary of an annual fee of one dollar ($1.00)." (Amendment adopted at annual meeting, November, 1905). "And any affiliating Association, as a body, may become members on the payment of an aggregate fee of fifty cents (50c) per member, as amended Nov., 1910."

We have to vote at each meeting as to our affiliation with the National. I think this will make our President right. Whether we affiliate or not is to be decided by vote and not by Constitution.

You must consider, as long as you have this Constitution and By-Laws, you must figure that you pay $1.00 for membership in this Association and, if you belong to the Chicago-Northwestern or the Eastern Illinois, you pay $1.00 there.

Their Secretary had the right on the vote of that Association to make them members of this by his paying out of their treasury 50 cents per member.

Some of you may think—I will join the Northwestern; very likely if you join the Chicago-Northwestern they will ask you $1.00; whether you are a member of this or that makes no difference because you have the reports of both Associations.

According to this decision, on which our President insists, I believe the only way out of the difficulty is for the Secretary to return to the members the excess that they have paid to him and let them join the National direct, since by your vote a little while ago you voted not to affiliate with the National.

Mr. Kildow—Then the way it stands we are only members of the National for a year at a time until we vote on it.

President Baxter—That is right. We are only affiliated a year at a time. We vote on it every year.

Mr. Stone—Then the members that have paid their $2.00 will have to have $1.00 refunded to them, but they can send it or not, as they like, to the National for membership and for the Review.

Mr. Dadant—I move you to instruct the Secretary to refund to those persons who have paid more than $1.00 at this meeting the amount so paid over $1.00.

Motion seconded and carried.

Mr. Hawkins—Why is it that a member of the Chicago-Northwestern can get membership for $1.00 for both Conventions, while we pay $1.00 here and get only one?

President Baxter—Didn't you hear the explanation of Mr. Dadant? We accept them at 50 cents, in getting 30 or 40 or 50 at a time we can get membership much quicker and easier.

President Baxter—You can get the proceedings from up there and can go up there and deliberate with them and have all the privileges except voting.

What is your pleasure—is there anything more?

Mr. Williams—Is it the intention to have a committee appointed on the matter I spoke of?

President Baxter—Did it suggest a committee?

Mr. Williams—Yes, in the paper I read I suggested a committee be appointed from this as well as other State Associations and to avoid any suggestion of individual commercialism that the state meeting would be the proper ones to take it up—it was suggested that a committee be appointed composed of men familiar with the working of the school system and ethics of the profession, to take up this matter of having the use of honey taught in public schools.

Some of the states are going to do that and possibly it would be a help to have Illinois represented with a committee of that kind.

I would be glad if this could be done.

President Baxter—Members of this Association, you have heard the paper read and have heard the suggestion—what is your pleasure?

Mr. Withrow—I believe it would be a good idea to have a committee appointed to wait on the State Superintendent and see if he could not help us out some. I will make a motion to that effect.

President Baxter—A committee of how many?

Mr. Withrow—Three.

Mr. Pyles—I second the mation.

Mr. Diebold—I suggest Doctor Phillips.

Doctor Phillips—Mr. Chairman, I don't know anything about Domestic Science work and consequently I could not make any suggestions of any value along that line.

Mr. Pyles—The bee-keepers themselves will be able to do a good deal of work if they wish to . The glucose people in many schools have exhibited the stuff they manufacture; they give samples away and they furnish the schools with everything they need and the use of glucose is being taught in some of the schools.

For instance: At St. Anne, when I was there the last day of school, and I went up in the afternoon to see the work, they had a case of those samples; the Standard Oil Company had their product exhibited. Bee-keepers, if they wish to do so, can get hold of the school boards and offer them some of the samples that we can produce, and this can be brought before the children and they can be taught how the work can be done, and I am sure the school board will assist us in any work we wish done.

It is up to us bee-keepers to do all the work we are a mind to, but unless the bee-keepers stand behind the committee it will not be worth anything to have a committee appointed.

President Baxter—I believe it stands principally with the individual bee-keeper; I don't think committees can accomplish much. Possibly we might give it a trial.

Mr. Dadant—I think in the very few words Doctor Phillips spoke he mentioned the key of the matter—Domestic Science.

That is where it must be taught—to the children. If we could only have put in the text books adopted by the schools some mention of the greater value of honey as compared to those other sugars—and have it taught in Domestic Science classes, and the little girls taught they must prefer honey to glucose!

It is strange so many women think there is so much in corn syrup; many women make their preserves with corn syrup; when there is no comparison between corn syrup and honey or pure sugar.

I believe the State Association would have more power than any individual, in going before the Superintendent of Schools and endeavoring to get it before the Domestic Science classes and urging upon him the greater value of honey. And show him there should be as much difference between honey and glucose as between butter and oleomargarine, and have the children so taught.

Question—Would it not be to our advantage if we could furnish these Normal Schools with the analysis of honey?

Doctor Phillips—They have that.

Mr. Bennett—I have a daughter attending Normal School. They have practiced teachers and they practice teaching them for Domestic Science teachers, and I don't hear anything

about honey being taught in the Normal Schools at Charleston, Ill.

President Baxter—All in favor of the motion, say Aye.

Motion carried.

President Baxter—It is so ordered; a committee will be appointed.

Question—What is the better of the two, wood or tin separators?

Mr. Bender—Wood, certainly; it is the cheaper and I think it is the better.

Mr. Beaver—I have used galvanized iron for the last 15 years. I have used wood; I prefer the galvanized iron; it is high to start with but I never have a break or have it wear out; the bees never eat holes in it as quite often occurs with wood separators.

President Baxter—Would tin be as good as galvanized iron?

Mr. Beaver—It is apt to get out of shape.

Doctor Baxter—I had two supers, one wood and one tin; the one with wood above the tin and it was filled and finished first; the one with the tin seemed to be too cold for them; they could not hang on to it.

Mr. Dadant—Tin for the bees to climb on is worse than glass.

Mr. Diebold—I am the one who asked the question. I spoke to some one about this and he said I was twenty years behind time when I spoke of tin.

I know that tin has been recommended by some Convention gatherings, largely preferring tin to wood. I have used tin and I have used wood and I prefer the tin; the bees will get to the section all right without climbing on the tin very much.

Question: How many colonies do you think it profitable to keep in one location in this state?

A member—Seventy-five.

Mr. Kildow—It would be well enough to state the locality first.

President Baxter—The man who asked the question could state the locality; it all depends upon locality.

Mr. Kildow—In our state at one time you might keep a dozen very profitably and, the next year, one hundred.

Mr. Bender—An average of opinion of this Convention, what they think is the case.

Mr. Seastream—I tried that question several times for my own benefit, in several places. For myself, it seems like, 75; 70 or 75 in most any place that I have tried, would about suit; would be right. Not over 75 hives.

Mrs. Kildow—It depends a great deal upon how many your neighbors have.

Mr. Seastream—I don't count on neighbors.

Mr. Hawkins—You would count them when they get American foul brood.

Mr. Pyles—It depends entirely upon locality; some places a dozen would be as much as could be kept any year profitably; and, other places, 200 could be profitably kept; it depends on location most years.

I am sure that Mr. Kildow will bear me out: That this man we were talking of, north of us—he keeps from 160 to 200 in the same locality every year and it is always a profitable matter with him every year—and some years quite profitable.

Now I would hardly know another place in the state of Illinois where it is quite as good as that, yet, in any of the white clover districts where there is growing a quantity of sweet clover, 200 is not too much.

Mr. Diebold—In localities where it is situated along a large stream, good timber, good low land, and plenty of sweet clover, I think 100 or 200 colonies would not be out of the way in an ordinary season. In dry years, and away from any stream or timber, why, very few colonies would exist, profitably.

President Baxter—You would probably qualify that by saying, not too large rivers, along the Mississippi would not do at all.

Mr. Diebold—Low lands where you are back from the river a mile or two.

President Baxter—I have been having large apiaries now for a number of years, for about thirty-five years, quite a number of them, and in our locality, Hancock County, where we have to depend solely on sweet clover and sometimes on heartsease, why, from 50 to 75 colonies in one location on the average is about right, although I have seen seasons when 200 would not overstock the region.

If you had conditions such as Mr.

Frank Cloverdale has, in Iowa, hundreds and hundreds of acres of sweet clover: He has 300 colonies in one apiary, and gets good big crops.

We could not do that in my location.

You have to take into consideration, also, other bees within a radius of the bees' flight.

If there are other apiaries there you have to diminish your number. As an average, fifty to one hundred colonies is enough for a diameter of about five or six miles, you being located in about the center of it.

Mr. Kildow—You could shrink that diameter a good deal and then be right.

Question—How is European foul brood spread?

President Baxter—Some of our Inspectors or Deputy Inspectors might answer that.

Mr. Kildow—I think that devolves on Doctor Phillips; he is at the head of the government; he can answer that better than any one else.

President Baxter—Doctor Phillips, can you tell us?

Doctor Phillips—All we know is that European foul brood can be spread by being fed to colonies in honey or syrup.

That has been proven, but whether it is spread by any other means remains to be fully proven, I think.

Mr. Withrow—Where does American foul brood originate?

Doctor Phillips—They are both of foreign origin and have been in existence probably about as long as bee-keeping.

Mr. Withrow—Suppose I have one hundred colonies of bees and no foul brood and in two or three years from now they have foul brood, where do they get it?

Doctor Phillips—Always of course from some other diseased colonies, without question.

Mr. Withrow—It is not in the nectar?

Doctor Phillips—Not at all. It always comes from a pre-existing case of disease.

Mr. Pyles—The spread of this disease is much the same as typhoid fever, is it not? And it is not in the form of contagion like measles or mumps; it is always through the feed in some way, is it not?

Doctor Phillips—So far as I know it is.

Mr. Seastream—There has been quite a discussion about this European foul brood. When I was a little boy in the old country we had an apiary in Sweden. The way we ran it over there, of course the apiary was not up to the standard of this country today.

We had movable frames. When we had European foul brood we would go to work and get rid of a whole lot of brood in the steel skep. Father used to make a hook on the end of a long wire and run it up among the combs, turn the steel skep upside down and run the wire in among the combs and cut it out; he was most particular to get as much as possible of the pollen out of it; he took pains to get as much pollen as possible and then of course there was no caging of the queen or anything of that kind; and do you know that colonies like that, they went to work when the fall flow would come and built up and you would not see a trace of it?

Doctor Phillips—Which disease?

Mr. Seastream—European foul brood I am speaking of; we never had any American over there; there was none up to the time I came to this country, in 1897.

When I happened to get it in my own yard, I tried of course the same process and succeeded. I found out that my darkest queens were the ones who got first affected by it. I went to work and removed as much of the brood as possible and all of the pollen, and I just simply threw that on top of the strong Italian hives, the best blood I had, and changed the brood for some that were ready to hatch, took the pollen away and gave another queen and effected a cure.

But afterwards, later in the fall, I did away with my black queens and introduced better blood there, and I never had a trace of it after that.

How I got the black bees, I would get a swarm here and there all over the country; people would notify me: Here is a swarm of bees, do you want it? That is how I got my black queens.

This is going on four years now and

I have never had a trace of foul brood.

I never had American foul brood here in this part of the state.

I was going to say, I honestly believe it is in the pollen. The pollen from alsike clover.

During this time when I had this foul brood, there was a 40-acre field of alsike, but the next year I plowed it under, and have no more alsike clover. I think there is some kind of intoxication in alsike clover that makes them dull.

If you take the pollen away you will see an agreeable change in the bees that are hatched afterwards.

President Baxter—Are there any school teachers present or members of school boards? Please hold up your hands if there are.

One—Mr. E. T. Laurie of Jacksonville.

President Baxter—I have appointed Mr. Bowen as Chairman of this committee.

Mr. Bowen—Please excuse me.

Mr. Laurie—I would not be able to get away from home.

Mr. Bowen—I think, however, I shall use my efforts to get it into the schools in our own vicinity without being appointed on the committee.

President Baxter—I will appoint Mr. King on this committee; Mr. Hawkins and Doctor Baxter.

Mr. Kildow—Our neighbor spoke of pollen from alsike clover as being a cause of European foul brood. I want to get that out of the mind of any one. That being the case all of our northern bee-keepers and southern Wisconsin would have been wiped out of existence if that had been the cause, because they rely almost entirely on alsike clover.

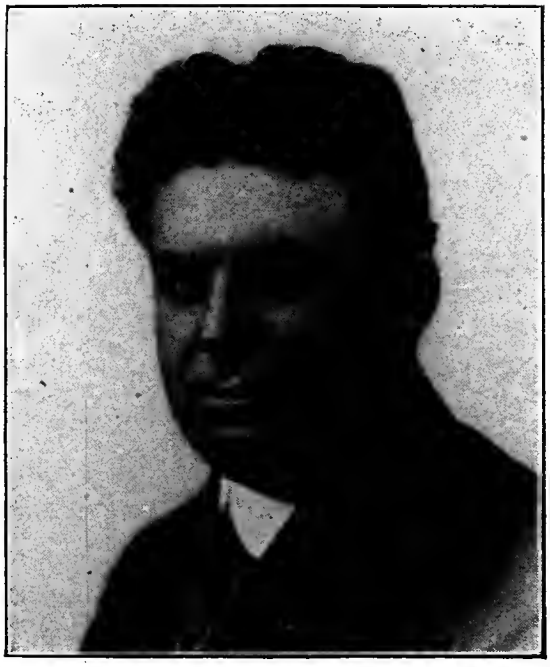
President Baxter—We will adjourn sine die.

At 11:30 a. m. the Convention adjourned to meet at the call of the Executive Committee; but before separating the most of the members went to the front of the Lincoln Library where the artist was in waiting to take a picture of the group.

The Association throughout their meetings spoke in high commendation of the Commercial Association, for the kindness shown in the way of such hospitable entertainment as we had given to us.

Resolutions of thanks were in the minds of all, and when the adjournment for dinner was moved, and about to pass, a substitute was moved and passed to adjourn sine die.

HON. N. E. FRANCE,
President for 1916.



JOHN C. BULL,
Secretary for 1916.

THE 18TH ANNUAL CONVENTION

OF THE

Chicago-Northwestern Bee-Keepers' Association,

HELD AT THE

GREAT NORTHERN HOTEL, CHICAGO,

DECEMBER 17 and 18, 1915,

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was called to order at 10 a. m., December 17th, by the President, Mr. N. E. France.

Mr. France, President, addressed the Convention as follows:

One of the features which induced me to come to this meeting, if you please, official duty. At your election, whether it was a joke or otherwise, they decided the ballot and put me into this office, so as duty I am here, and, may I say, I have the pleasure of holding in my hand, as presiding officer, a gavel made from an apple tree (this portion of it) which Brother Langstroth had in his own home. This was a gavel which was presented to the Chicago-Northwestern some time ago. A mate to it was, at the same time, donated to the National Association. I wish there were enough of that tree left that each state organization all over the country might have a souvenir.

I would have called this meeting together sooner, but it seems like the social feature sometimes is worth more to us than the entire Convention; they make that a point up in our state—the social feature—and we get together for the sociability and the commercial feature as well.

I had placed up in view last week at our State Convention a list of Wisconsin bee-keepers who had honey for sale and another list of those who had bees for sale, and a list, not so large, of those who wanted to buy. The result was "A" and "B" were exchanging. One young gentleman living near my home told me, before we had commenced, that his 5,000 pounds of honey was all sold for 1½c more than he expected to get for it, by just coming to that meeting.

So that that feature of social and commercial interest is of great importance and I do not like to take any of the time away from you.

Again, I wish that, may I call it a censure, that we would learn at the Chicago-Northwestern meetings that when the time is set, when it is time to sound the gavel, the house would be full to overflowing.

At a late hour I will have to vary the program in order to bring in all the different features.

On the Committee on Resolutions, I will appoint Mr. Bull and Mr. Rohrs and Mr. Hassinger.

On the Auditing Committee: Messrs. Kannenberg, Coppin and Wheeler.

One other Committee should be the Wide Awake Committee. If you please, a few years ago when Mr. York was living here and was the presiding officer, I have been to the Chicago-Northwestern meetings when the room was full to overflowing, and no program.

We had to quit with the Question Box only partially answered.

Now, if we have a few questions, we will make the answers to them prompt. I will appoint John C. Bull to take charge of the Question Box.

At any time, whether it be in behalf of some paper or some question on bee-keeping, you want to bring it out through the Question Box; sometimes we can reach it that way better than in any other.

We have on our program for this morning, topic: "A Paper" without a name. Has any one a paper they care to donate? That will come in very nicely at this time.

We have: "Out Apiaries for Profit," by L. C. Dadant, Hamilton, Illinois; I understand, since I have arrived here, that this family of C. P. Dadant & Sons have, in each home, sickness; both in the hospital and their respective homes, so that it is impossible for any one of them to be with us at this time.

THE VALUE OF YOUNG QUEENS.

(By N. E. France.)

Mr. France—In the absence of a Vice-President, may it be your pleasure, I will stay here at the Chair, in case something should come up.

I do not know whether I should read you a paper I read last week in the Wisconsin Convention along that line of thought, or give you some other.

I believe I will do this:

You do not want a copy of what they had in Wisconsin. We will vary from that meeting, if you please, and I will not read my report but will give you a few thoughts: "The Value of Young Queens."

In my work, as I have traveled over our state now about twenty-one years inspecting bees, I used to keep a statistical report of each place I visited, not only the number of colonies of bees, the number diseased, the kind or hive, the flow in their locality and the kind and quality of goods that they produce, but also—did they know the age of their queens, and, lastly—were they subscribers for one or more Bee Journals?

When I began to sum these up, to my sorrow, I found the number who read and were subscribers for a Bee Journal were so few in the total number, that I said as Governor Hoard had said some years before at a Farmers' Institute: "There are many thousands of dairymen in Wisconsin." He said he would modify that to: "There are many thousand cow-owners, but few dairymen." I found in Wisconsin (I don't suppose it is so in Illinois), that many were registered by the Wisconsin census as bee-keepers when really they were bee-owners and the number who were practical bee-keepers were few.

Just almost in comparison to the lack of literature, the lack of reading and studying that they do in bee-keeping, so was their bee business.

When I went to a bee yard I could almost, at a glance, tell whether that man was a subscriber to a Bee Journal or not.

Hives tilted every way, grass up nearly to the top.

You know how some of these things

are if you have ever been in Wisconsin; this does not appear in Illinois, of course.

Now then to come back to the subject: "The Value of Young Queens." They would look at me in surprise when I asked them if they knew the age of their queens.

Why we have, up in our state, men who have boasted to me they don't believe in this buying of queens, they never did such a thing in their lives and don't believe in it.

I suppose you will pardon me for referring to my own state so often.

If I were to go to some of our men who are purchasing, in the dairy line, the best registered sires that can be had, upon the line in which they are working, I would find that must be exchanged in the near future for still better blood, if it can be had, until practically that entire herd is nearly thoroughbred and he is then registered for selling thoroughbred, and he is proud of his stock; and he will then take care of it better than he did before.

If the sire of that herd has cost him several hundred dollars, he will take care of it, and those that follow from it will be cared for.

So in the line of breeding. He has brought up the standard of perfection in his dairy to a point by which he is proud of it.

I remember, on the east side of the state a few years ago, a man who had grown gray with the care of breeding up on a certain line. Misfortune had come in, his wife laid away, his children grown up, and he was left at home alone.

Would he go and live with the children?

He said: "I have one more duty to perform before life takes me: That cow has got to prove to the world what is possible with breeding and feeding," and, he told me, he was not out of sight of that cow for a year with the exception of one and one-half days.

The result? That Guernsey cow produced, in actual butter, more than her weight in one year.

I saw her little calf, which was sold before birth for $100; that was not scrub stock.

What will I find in an apiary within the same postoffice address with this cow?

A man who has been putting honey upon the state in advance of others—and some bee-keepers asked me to go and inspect his bee yard, thinking that something was wrong—that he must be adulterating to produce such nice honey and get it on the market so early.

What did I find?

He had been selecting and buying queens from abroad; he had young queens; he gave them care and attention, and he was having fancy clover honey on the market when his neighbors had just got their bees beginning to work in the sections.

There is something to it, that a young queen is ambitious and there is much less tendency to swarm than an old one, and will fill our hives in the spring when the old queen will not.

Will keep up the brood rearing so that when the honey flow comes we have a hive full to overflowing with bees.

Whereas, if we leave the queen proposition alone, the chances are we would not get ready for brood rearing when the honeyflow begins, and our best brood rearing is in the honey flow.

The question was asked last week of our largest comb honey producer in the state: What did he do to check swarming during the honey ffow? He said: "the queen is no longer of value to me when the honey flow is at its best; I pinch her head off; her daughters are to come on and take her place the latter end of the season."

In the poultry business, if you have to winter your hens on expensive feed throughout the winter and get few eggs only in the summer time when prices are at their lowest, it is not profitable.

It is just as true with bees; if we have old queens that will not begin brood rearing until the honey flow.

In order to make this matter open for discussion: Young queens mean hive full of bees at that time when you want it; less swarming, and, if a queen of proper blood has been introduced, little or no disease, especially European foul brood.

A young queen, I think, would cut no figure with American; with European I know it does, decidedly.

There are three things that are

worth our considering for value of young queens.

I am no agent for any man's queens, but that one thing I do advocate, better blood and young blood if we are going in the business commercially.

There is plenty of time in which you can discuss this matter, if you wish, rather than to run it at any greater length.

Mr. Stewart—I claim that any man who has ten hives of bees, and he has in that yard one good queen, that will raise his as good bees as ever he can buy; one good queen will raise him just as good bees as he can buy from anybody else.

Mr. Wheeler—I don't exactly agree with you on that queen business. I am glad to see you take that stand though. I know you are conscientious in what you say and I am here to learn.

I have got to the point where I do not think blood counts for anything; age counts for a great deal, but I don't think blood counts for anything.

Mr. Kannenberg—I think I am just the contrary as Mr. Wheeler.

I think, if you want new blood, you have got to take it from something else as out of your own yard, because I know in poultry raising, if you keep on raising out of your own yard you will get nothing else but scrub.

Mr. Wheeler—That is just the point that I think we miss on. When you begin to talk bees we begin to compare bees with poultry and stock and other things. The bee is a different creature; the bee is an insect, travels three or four miles in all directions.

We are not confined to one poultry yard or one farm; the queen travels; the drone travels. In that way we don't have to worry about the stock about inbreeding bees.

Mr. Bull—There are a whole lot of us that don't have superior drones within three or four miles of us to mate with our queens, as Mr. Wheeler would seem to imply.

I say you cannot get too good queens, even though you buy the best, you cannot get too good queens.

It is foolish to try to take something in your yard and start to build by that when somebody else has spent a lifetime in this particular work. Go and get the best you can get, the same as any other kind of stock.

Mr. France—I wish you would go and make a trip with me to some of the bee yards that I have been to. This fall I was in a county where, to my knowledge, up to three years ago there had not been over two queens shipped into that county for years. European foul brood broke out and it went, within twenty days, to almost every yard.

These two parties were surrounded with European foul brood; it showed in only a few hives in their yard; and, when they took those queens away and requeened, it disappeared in those yards.

Then I took a flying trip from there as I was so near to where my son was, at the University in Minnesota; and, when I reached the Experimental Farm where they are sending out queens, it would do one's eyes good to see those big fat fellows; the workers were as big as the queens where I had been before.

Another yard: On the opposite side of the county, some twenty-eight miles I think from there, farther east, a man, with over 200 colonies of bees, had bought, each year, one or two queens and and had been requeening in his yard. He was buying queens not as good as he already had.

European foul brood broke out there and, in about from twelve to twenty days, he had plenty of it.

I said: "Mr. Fleming, something has got to be done."

We bought queens from different localities, not introducing them promiscuously, but kept a record of them. Some of those queens gave way to the disease; some other queens showed here and there a cell, and, from one breeder where he had only three quens, they were put in some of his worst infected colonies, not a cell of the disease appeared.

I am at sea where or how European foul brood spreads.

A neighbor, over the hill three miles away, with 80 colonies, infected brood; queens from several breeders, and among them some from the same party.

There are disease resisting strains. While I was in New York one of the Inspectors, who was surrounded with European foul brood, was without it in his yards. I asked him the cause for it; and, when we found the cause, the state of New York took advantage of

the opportunity and have been requeening from that yard with good results.

Mr. Stewart—Is not the queen rearing habit a hazardous business to the best of us?

Mr. France— To some extent; but there are queens that are well worth our time and money.

Mr. Smith—I have been studying bees for about eight years as a recreation; I am not what you might call a practical bee-keeper.

I have read a good many books—all the magazines I could get.

I am satisfied that, in nature, the bee is susceptible to exactly the same forces that all other life is susceptible to.

Thirty or thrity-five years ago I was raising hogs. I was trying to raise the best. As I look back now, I can see that those hogs I was raising were no more like the hogs of today than they were like seven or eight other breeds. Times have changed; conditions of farming have changed, and it has become necessary to raise a different kind of hog to make it pay.

I am satisfied exactly the same thing can be done with bees that is done with hogs or cattle or with any other livestock or even with the human race. The same laws of nature will hold. The difficulty is, the bee is so much smaller than other animals and much more delicate in its reproductive results that we cannot get at it.

If some man will spend money enough and time enough—and get the best minds at work—the most scientific minds at work on the improvement of the bee, I believe it can be improved two or three hundred per cent in practically every way, but I believe we have got to examine drones and queens with the microscope, and spend some money to find out how we can improve them.

There is one thing that we have always done, and that is, fight shy of the advertising men who have goods for sale. There is good reason for it, but I believe we should get above that.

I believe the Association should have some one appointed, or some committee appointed to ascertain for the Association what man is the best equipped, mentally and physically, and financially, to produce the best bees that can be produced, and then let us know who he is, that we may buy our bees from him.

Find out impartially who he is, whether his yard is in Virginia or Texas, Illinois or Montana, and then back him up; let him make some money out of these queens and let him produce a better bee for us.

A few years ago, if you will allow me to refer to a personal matter: A man came to me and wanted me to tell him how to handle bees. He told me he would give me half that he made out of those bees. He was in Chicago.

We purchased seven colonies of bees worth $70. We ran those bees for honey. He did the work; I saw him three or four times during the summer and talked with him. That fall he turned over to me $73 in cash and had twenty colonies of bees to start in to winter. So that there is money enough in the bee business if it is handled right, and a man can afford to do it properly.

Mr. Coppin—How do you tell the difference in bees, in the size? The President spoke of large bees. Are the Italians larger than the black bee, or how is it? How do you tell; do you weigh them, so many bees to a pound? Does one lot have more bees to a pound than another?

I often hear some one say when they are looking at a colony of Italians: "My, are they not large?" I have not any proof that they are any larger than any other. Whether any one else can see that they are any larger, I don't know. If any one has proof, I would like to know.

Mr. Rohr—I think we all admit we have scrubs and the first class, animal or insect, in everything, and the laws of inheritance have shown us that like will beget like; therefore, I don't doubt it, and it is very important for us bee-keepers to get the very best queens to be had.

But just there is the trouble—where can we find the best bee? And then again, and I think you will bear me out in this, that queens, being transported through the mails, as a rule, they won't live as long as others; at least that has been my experience, and it seems to me we are up against it again.

Certainly, bees are more of a side issue with me, but, if a man would

give all his time to it, it seems to me he ought to make a success of it.

There are bees—and bees. We have different kinds of bees and we know that bees will behave differently.

About small and big bees: If a bee is fed well, especially during the time the honey is coming in, they will look heavier, fatter, bigger; if a bee is starved, it will shrink.

Mr. Coppin—I have noticed some small bees and black bees at that. I am not thinking it was on account of color of the bees, but on account of age of the hives the bees were in.

A farmer gave me a hive of bees one time, thirty-seven years old. I finally tore the hive up, after I kept it a year. I transferred it and found some of the cells in the combs were so small you could not expect a bee of full size.

Mr. Wheeler—I am in hopes we will stick to the one point you made of the eradication of foul brood by change in stock, because these other questions, as to the size of the bee, the breed of bees, breeding for honey, is an old thrashed out subject; but you, Mr. President, are in a position to know just how much truth there is in this point of stock of bees helping us to eradicate the disease among the bees, and I wish the folks here who have anything to say on that point would stick to it, because I want to learn if there is anything in the bee that will help me in eradicating the disease.

If we can stick to that and learn all we can on that point, I believe it will be of value to every one here.

Mr. Bull—In regard to bees being immune to European foul brood: European foul brood went through our country six years ago; I don't think there was a colony of bees in my part of the country that didn't have it. I requeened with Italian queens and since that time have not seen the first sign of European foul brood. Off goes the head of the poor queen, the first chance I get; I have no fear of foul brood as long as I keep up my stock.

With American foul brood, that is a different proposition entirely.

Mr. Kluffer—I don't know whether I can call myself a bee-man or bee-keeper, because this last year was my first experience.

I hear a few things often that are kind of Greek to me.

I would like to know how this foul brood is carried. Does a young queen, after making her virgin flight, make any other flights after that, and is the disease carried by the queen or by the bees from other apiaries?

Is it carried by the queen after the virgin flight, or by the bees? Does the queen make any other flight after the virgin flight?

Mr. Smith—The queen goes out with the swarm; no other time.

President France—Any one want to answer as to the probable cause of the spread of disease, in reply to his question? Mark the difference between American and European foul brood.

Mr. Rohr—It seems to me that if a queen is a good queen she will put the hive into good condition; if there are a lot of bees, then the disease will be fought.

It is just like the human body; as long as the body is healthy and strong, contagion will not attack us so easily but, if we get weak and run down, it will. It is the same with bees. If a colony is not strong, it is exposed to disease.

I have read of the statement and believe it is true, that more or less every colony of bees has some kind of disease, especially foul brood, but that colony that is full of strength will expel those diseased conditions. If we have a good queen and she will fill up the hive with strong colonies we will get rid of it.

Mr. Stewart—The question was: "The Value of Young Queens." What is a young queen? When is a queen old or young? Is it usually advisable to kill your queens before they get old? Is it advisable to kill your queens every twelve months, or shall we let nature do some of your selecting?

Is it advisable to requeen at the end of the honey flow?

Is it well to try to buy queens and get them into the hive as early as possible? Is it well to buy from the south?

Those are some questions I would be interested in, in connection with the value of young queens.

If there can be any fixed rule as to when a queen is old—and what are the signs to look for to decide whether a queen is young or old—I would like to know.

President France—On the point of bee diseases, as the program is nearly all on that subject tomorrow, it would be well to defer that part of it; but the subject, the value of young queens, as suggested by our Secretary, is worth our time.

Please bear in mind one thing: When we are speaking of bee diseases, we should designate American or European, for they are decidedly different, in that one spreads rapidly and the other does not, but American foul brood is one which has no favor for the best of blood or weakest. In fact the stronger colony will reach farther away from home and is more likely to find infection and bring it home; but European foul brood, that is another proposition.

I am of the opinion that a young queen, if of better blood than what they have already sustained in the hive, more of the disease resisting, is one of the things to eradicate the disease.

We should have the best in our yards and not scrubs.

I call to mind a queen breeder who makes a circuit several miles from his home every year, and, if he finds a man who has scrubs where it would be possible for his bees to come, he offers to give him the best he has.

This man guarantees that the mated queens he sends out are true mated. There is one of the lines of careful breeding we have overlooked.

I acknowledge that the best of us are not getting the best returns. I know of some queen rearing yards where they were doing all in their power but near to them was some ordinary scrub stock.

Again, as to the buying of tested queens and having them shipped through the mails: It is only recently we have learned that a queen that is laying heavily, when caged and sent by mail, is almost a guarantee of ruin.

Let me give you an illustration:

You buy of me a fresh cow, and I ship her, without having some one to milk her and care for her, you would not expect her to be as good as when she left home; it is the same with a tested queen; unless she receives proper treatment, if you send her through the mail, she is soon dead or never reproduces as she used to.

I believe the largest queen breeder in the United States, if he were to guarantee the best queen he had, he would take chances of injuring her if sent through the mail.

Only a short time ago, not far from Chicago, I was asked to investigate why shipments of queens made by a certain party failed, on arrival, to reproduce while others went through all right, and we found after investigation:

At his home station, some trains went through rapidly, and the mail bag was caught with a flying arm; those queens failed; and others which he took to the station and put in the mail bag, where they were handled carefully, went through all right.

How would it do to ship a comb of brood with the queen you wanted to preserve?

President France—That is all right. Years ago when the bee business had not got down to such economic conditions as now prevail, when I paid Mr. Grimm $18 for a queen. he would no more think of letting me take a queen home in modern cages, and it must have a comb of brood, and honey, and all necessaries.

And he said to me: "Hold on, don't you get it chilled; put it under your clothes next to your heart." When I got it home, I had something I was proud of, and, out of that queen, produced bees that have given me return for future years; but I was foolish, I kept her until she was four years old and then got scrubs from the same queen.

We had exhausted her; I question if it is advisable to so crowd a queen.

As we go farther north, especially in our Wisconsin latitude, where the winters are severe, I have decided I don't want to have a queen over a year old; there are exceptions. But, in order to have something as a guide to go by, I don't want a queen to ever go through two winters.

Mr. Rohr—How would you requeen your bees? It seems that question comes right in here now. Would you kill off your old bees after the honey season is over, or would you rear your young queens and introduce them to separate hives?

President France—Well, as Mr. Stewart suggests: From the best ones I select a few, but the larger part from some queen that has been proven from outside blood to be still better, and requeen from that. There is

that individual difference in colonies of bees, just as much as there is in the human race or any animal life. Especially now, in this age of European foul brood, we should select those that show disease resisting strength.

Now before we drop this subject: If you please, we have Father Yaeger with us, who has charge of the Minnesota University. We would like to hear from Father Yaeger; have him tell us something about what Minnesota is doing in the way of bettering conditions.

Father Yaeger—I was very much interested in the discussion, about introducing new blood into our apiaries. The point was well taken. With scrub queens we cannot go on with bee-keeping; in the first place we won't get any returns.

The importance of young queens is really underestimated.

If I put it the other way: The bee-keepers as a rule, they think they have good queens, whereas, they have not.

We are naturally inclined to think of our bees, they are the best; the same as we have the best cows; the best horses, the best automobile; all is the best; I will not deny the fact that most of our queens nowadays are mostly scrubs, and I can prove why.

In the first place, our queens are scrubs, because they are inbred. Now this is not merely a supposition, but there is a great deal of evidence to support this statement. It stands to reason that, where one man keeps an apiary, ten or twenty hives, at a distance from his neighbor, those queens should be inmating in his yards for two, five, ten years, and I know of apiaries where the queens have never been changed, where the yard has been inbred for more than twenty years. The law of nature is that any inbred animal—the longer you inbreed the more they deteriorate.

If you plant some corn from your own field from the same seed, it will run out; different grades work wonders for a few years and then run out. Take it with potatoes, it is the same; for a few years there will be a wonderful crop, of fine quality, and then it runs out. Nature hates inbreeding and the punishment is nature provides ultimate extinction.

In the human race, it is proven that when human kind inbreeds, cousins marry or intermarry in same family, you find insanity, imbecility, weakness of mind.

So it is with the bees; queens inbred are not good.

The problem with you gentlemen and with me, is where to get good queens; how to get them to apiaries and how to requeen your yards.

I find out, as a rule, bee-keepers, when they meet, they like to have detailed statements; they like to have you go into the very particulars of how those things are to be done.

In the first place, where should you get your queens?

I have bred quite a number of queens, and I know when you go to our nuclei and pick out thirty or forty or fifty queens a day, no matter how careful you are in breeding those queens, fully one-third will not be up to standard, and by and by you begin to read it as plain as a newspaper, which queen is good and which is not.

If raisers of queens go through that same experience, I wonder if they discard those worthless queens or ship out those they can get a dollar for. After they have gone to the trouble of raising those queens, I wonder if they discard those they know to be worthless.

What is needed in all our states, really, is that the state or agricultural schools will take care of raising queens and providing them to the bee-keepers of the state at practically cost.

The state is the only institution that is interested in you and your stock. Naturally queen raisers are more or less interested in the returns in cash.

We have heard so much in the northern part of the country, that "We can't raise our queens here; we must get them from the south; they will have to be imported from a warmer country; we must ship them in here." This language is prevalent now throughout the northern states.

Gentlemen, we can breed just as many and as good queens right here as they breed down south.

I have heard it said: "Our season is too short." It takes three weeks to raise a queen from the egg until she is ready to take charge of the colony, While the queens are being bred, warm weather comes and the honey flow.

Have we not three weeks in this country, and, if we have, the season is long enough to raise queens.

We can raise four queens comfortably in one season up in Minnesota; that is about all that is required.

Mr. Yaeger—The importance of those young queens: The subject is so vast I don't know how to approach it. The advantages of young queens: Young queens introduced in your hives every year will do these things: First—A young queen will be prolific and will provide your hives next spring with a larger number of bees. An old queen may fail you just before honey crop. Second—A young queen introduced in your yard every year will effectually keep away European foul brood. There will be no danger of having it. Third—A young queen will not only effectually keep away foul brood but it will effectually stop swarming. Fourth—A young queen introduced into your apiary every year will improve your stock and prevent inbreeding. Now what is the time of the year? I may give you some other reasons besides, but these are enough. When is the time to introduce the queen into your apiary?

If you read our bee journals and books you will find all kinds of theories. One may say any time between spring and fall, which means nothing. What is the best time, definitely? I don't want to be an authority on this. The time is coming when all those things will be common property throughout the United States, and when all of us will be agreed on certain things, and when we will all do the same thing—when we will all treat our bees for swarming in the same manner. Now, we are at a loss—as many heads as there are, there are so many opinions, and you are in a maze of uncertainty. I sometimes don't know what to do. I pick up one journal and certain advice is given; I pick up another and contrary advice is given.

How must one man who is interested and begins to acquire knowledge feel in having these contradicting problems?

The time to rear queens?

I believe right during the honey flow. At the beginning of your honey flow; if we investigate and look into the matter we probably will come to the same conclusion some day. I will give you reasons:

In the first place I would rear queens during the honey flow because that is the time when the bees naturally requeen their own yards. When the swarm goes out of the hive, what is left behind? The queen is tired. At the beginning of the swarming season during the honey flow, the bees are used to being without a queen; naturally they are supposed to be without a queen. Why should not a bee-keeper just as well take out the old queen? The bees expect the old queen to get out during the month of June, and if the bee-keeper removes the old queen in June and substitutes a new queen at that time you will find it a better time for providing a queen for the hive than any other time.

Another thing: Why requeen during the honey flow?

It eventually stops swarming because the young queen introduced in that hive will not swarm that season. Why she does not swarm we do not know. We only know the fact from the experience of bee-keepers; when you put a new queen into the hive, that young queen as a rule will not bother you with swarming that season.

When a man has five, six or seven out apiaries and cannot visit the apiaries except once in a week or two weeks; this is an advantage. The worry during the summer is something; I went through with it; and still worse, your neighbors say: "Your bees are bothering us all the time."

How would I introduce those queens in June and how would it work out in the swarming problem?

If I take my old queen out the 15th of June:

Those bees will get at the queen cells immediately, and within four days you will find the queen cells being drawn out.

If those queen cells are from a good queen, for instance, one you would receive from an experimental station or a breeding queen from a first class dealer; Let those queen cells develop.

It will take eleven days before those queens will hatch from the day that you have removed your queen. Don't wait over eleven days. As a rule the tenth day those cells will be far enough advanced that the young queens will begin to move; you can hear them move in the cells.

If this hive is from your best queen, leave one of those cells in the hive; take the ohter cells out and use them in the other hive; the queen will hatch the next day; will mate the seventh day; and commence laying

eggs three days after, and there is a new colony with a new queen.

But the greatest benefit will come to you from this fact:

Your bees have been without brood for part of your honey flow.

I will give you my reasons for it, if they are good enough, why—

The moment you have removed your old queen there is no more brood in that hive; all those bees which have been feeding the young brood, they go out in the clover fields and carry in honey and, when the honey comes in, it is not fed to young larvae.

Instead of that, honey comes into your supers.

But you will say, "The bees don't move; they don't work well." They do. With the bees it is all the same whether they have a queen or queen cell and they will work with the same energy.

We find out when the old queen swarms the hive left behind goes to work because there are queen cells.

You say: "It is too bad to lose that beautiful brood. It will weaken the hive!"

What are those bees worth to you, gentlemen? Let us figure.

The 20th of June the queen lays eggs.

Twenty-one days after, or the 11th or 12th of July, young bees will hatch from those eggs.

Sixteen days after those bees that go to work will go out.

The 27th of July those bees will go out in the fields.

Gentlemen, what kind of honey flow have you around the 27th of July?

A member—Sweet clover.

Professor Jaeger—There are communities and places where we have not any; at the same time I will say that the main flow in the northwest is over by the 27th of July.

Now the bees from young queens will begin hatching sometimes in August and should produce large batches of beautiful young bees. The young bees will fill up the hive with winter stores and there will be a large amount of young bees to go into winter quarters.

In order to produce young queens I had to make some hives queenless—over forty I made queenless during June.

Those hives afterwards raised a batch of queens—I left in one of those queen cells—so all of those colonies were without a laying queen for three weeks and last fall when we began to remove honey from 125 hives I was surprised to find in those colonies I had been raising my queen cells loaded with honey in the supers; produced a great deal more than all my other queens.

I suppose you may have different ideas, but I do believe to queen during honey flow will produce larger crop of honey than otherwise.

Mr. Wheeler—Did you select your strongest hives?

Professor Jaeger—I selected the strongest, but our hives are nearly all alike.

They were practically all alike; we went down the row.

Now this is a matter of course that is based on our local conditions in Minnesota.

Moreover, young queens generally will effectually stop European foul brood.

We introduce queens year after year and bring new stock year after year.

And it is of great value to you to know that you do not have to bother or worry about foul brood ever getting into the yard.

And by this method you are practically free from all swarming.

The problem of who is to raise your queens?

If I were better acquainted with local conditions I might give you enlightenment. I believe your queen stock can be raised right here in the state of Illinois; I don't believe here in Chicago, because they could not get mated; the drones could never see a queen with the smoke!

But around the country here there are apiaries where your queens could be raised.

May be you have some state institution here. Would your legislature allow you a couple thousand dollars for that purpose, and get a bright young man to go to work and establish a queen rearing apiary for the benefit of bee-keepers?

Why does the state spend thousands of dollars to improve stock?

In agricultural pursuits the country is spending thousands of dollars every year. Minnesota alone (and what is Minnesota compared to Illinois? You are known to be one of the biggest and richest states in the Union)

spends $10,000 a year for bee-keeping. The legislature allows us that much money.

Go after your legislature and let them do something for bee-keeping. Tell them what other states are doing.

Go before them as an organization of influential men.

Say to them, there are 10,000 bee-keepers in the state of Illinois behind us—demanding an appropriation of $2,000 for queen rearing apiary, an experimental station for bees.

I wrote to Ernest Root, a personal letter, asking him to give his own personal attention with a view of locating for me the best breeding queens that can possibly be obtained in the United States.

It took him a year to do it.

I selected three grand daughters of that queen selected especially by Mr. Root for that purpose; I got those three queens and introduced them into full sized colonies, and have seen them develop, lay and produce brood and you would be surprised what size queens they were and what beautiful bees they produced, beautiful leather color Italians, gentle, industrious workers, great producers of honey.

Although I was disturbing them all summer they gave me a wonderful crop.

The state allowed me $1500 to buy an outfit, and, if you want to have mating boxes, the common Hoffman frame is the best.

About the mating of those queens: There is a great deal of ignorance and prejudice. Queens can get mated in neighboring yards and queens fly three or four miles away.

I will tell you of our experience:

We have, in Minnesota, bees all around us from one-half mile to two miles.

We are surrounded by bees. We are in the suburbs.

In our yard at Minneapolis I introduced 125 of our own queens; only four were mismated; all others mated pure.

I found upon observation—where we have four hundred mating boxes—queens flying through the air—drones flying through the air—that a queen did not go, I do not believe, a block away before it mated.

Of course we have an unusual locality.

We have a queen-rearing yard located in the middle of a grove, with trees all around.

The queens keep circling over the tops of the trees, trying to fly away, but they meet hundreds and hundreds of drones in the same yard.

But, gentlemen, the pleasure of having pure bees, and all kinds alike, is something that only those know who have the pure bred stock.

Hybrids and black bees, the moment you approach the hive they run for you. There is no pleasure in keeping a yard like that.

But the pure bred Italians—you can handle them the whole season through without gloves and without a veil; and practically without a smoker. You can perform all your operations there in your yard without hardly ever getting stung.

No danger, if you have children or have visitors, of getting stung, and, besides, the advantages you have, the pleasure of handling those bees—the pleasure of handling pure stock which only those people know who have ever owned pure stock.

I don't know what Mr. France would like to have me say to you, but if there are any questions you can think of I will do all I can to answer them. (Applause.)

President France—If Doctor Phillips would like to add to this, at this time, anything further on the subject of the value of young queens, we would like to hear from him.

Doctor Phillips—I don't believe I could add anything to what Professor Jaeger has said because he has covered the ground so thoroughly.

The difficulty is a great many bee-keepers are very much misled as to what they actually have.

A great many bee-keepers, when you first visit their apiaries, will brag to you about certain colonies and queens they have, when it is true that, if you have recently come from a yard where there is good stock, you will be surprised to find that a man would take in such scrub material.

We should take advantage of what others have done to improve because there is no doubt that the stock can be improved.

The bee-keeper would, with advantage to himself, breed his queens from his stock in the yard if he knows positively he has the best stock that can be obtained.

There is, in this state, the best bee-keeper in the United States, in my opinion, that is, Doctor C. C. Miller. He is known to all of you. One of the things that has made him famous from one end of the country to the other is stock he produces by careful selection.

I often, in talking to bee-keepers, find they are a little jealous of some of the things Doctor Miller has done and are inclined to attribute his success to locality—exceptional locality.

I don't believe that is the case, because there are other bee-keepers living near and around Doctor Miller's, who are producing scrubs.

The difference, in my opinion, is due to two things: First—The finest stock that can be obtained. Second—The finest care—the best that can be given.

The care is practically as necessary with bees as the right kind of feed is with cattle, so that it seems to me it is a double problem, not only the breeding, but the manipulation of the right kind, and I might add a word, that it is a great satisfaction to see the states taking up work of this character.

I have been attending nine meetings before I attended this one, and you may be interested in knowing that Iowa and Wisconsin are both planning to do what Minnesota is doing. They are proposing to give their bee-keepers the advantage which they will get from careful selection of the best stock by men who are not commercially interested in the selling of that stock—at the lowest possible figure, to the men who most need it, and when work of this kind spreads the bee-keepers will get away from that which has kept it from progressing and will come out into something that is so big—bigger than we have ever dreamed of. (Applause.)

Mr. Coppin—Mr. Phillips refers to Doctor Miller as being one of the best bee-keepers in our state and having some of the best stock: I was thinking about the disease—European foul brood—Doctor Miller has that among his bees and it seems to me that he should not have it or should not have much trouble to get rid of it, provided he had the best stock.

Did he ever get rid of it? I never heard.

Doctor Phillips—I suppose there is some European foul brood in Doctor Miller's yard; there was in 1915. I can't remember the absolute figures, but he gave them to me.

I think he found six or seven cells of European foul brood in three colonies; the difference between Doctor Miller and some of the rest is that when he found those six or seven cells he did something with it.

So far as Doctor Miller is concerned, it does not make any difference whether he eliminates it entirely or not, because he is keeping it under control so that it never interferes in his manipulation in the slightest degree.

It does not lose him one cent a year, and, when you can get the disease throttled to that extent, it does not make any difference whether we get rid of it or not.

I know of other apiaries where European foul brood exists and will continue to exist, but where it never does any harm.

I suppose there is not any stock in the world which will absolutely keep some European foul brood from the yard and you will see cells occasionally from dead brood if you are in a community where it is.

Mr. France referred to one of the Inspectors in New York.

I have been in Mr. Stewart's apiaries also and know that European foul brood is all around him but it never interferes with his work. If he finds the disease as he goes over his yard, giving the colonies the careful examination to which they are entitled and which they deserve, he simply does something and does it at once and it never interferes with his production.

It seems to me that that is the solution of European foul brood—we do not expect extermination, but we do expect to get this disease in such shape that it does not interfere with honey production.

Mr. Smith—What did Doctor Miller do when he found those few cells?

Doctor Phillips—Caged the queen about ten days and gave the bees an opportunity to clean out the few cells that were started. That method of treatment is entirely satisfactory for men like Doctor Miller. It is entirely satisfactory for a careful, watchful bee-keeper, and under those circumstances European foul brood will not spread, it will not get a chance.

But if the bee-keeper waits until

there is 50, 60 or 75 per cent infection in a colony and then cages the queen ten days he must not be surprised if he finds it unsatisfactory. He generally does not change queens.

Mr. Kannenberg—I think we have had quite a long session. I move we have a recess.

Motion seconded.

President France—Just one thing before we adjourn for dinner; I will give you these figures: Here is a bee yard where there are eight colonies of bees, last spring increased to 32; honey sold out of that yard, 1,240 pounds.

Here is a bee yard one mile and a half from there, and—if you will allow my judgment—he has the best location for bee-keeping in the state of Wisconsin. I offered him $20 a year rental for ten years to follow. It is 200 miles from my home, and I would be glad to go that far for such a location to keep bees.

That yard has never seen a day it sold 1200 pounds.

This yard (the first one described) sold this year out of three hives as much as that one (the second described) and it has 75 hives. European foul brood got in—hives rotted and tumbled down—no care—no management. Here is a man who is a druggist and makes it pay.

Young stock of the best of breed, and, may I say he bought his stock a year ago out of this yard. Before he got those bees all transfered he had ordered, and coming by mail, new queens to put in there.

We will stand adjourned.

AFTERNOON SESSION.

December 17th, 1915.

Meeting convened at 2 o'clock.

President France—We have left over one subject of this forenoon that should have been taken in its proper place and we ought not to pass by. I do not like to check the viewing of the souvenir of a copy by Father Langstroth on bee-keeping, with blank pages put therein by which he may make notes ready for his second edition.

We have Langstroth's own handwriting on the pages for the revising ready for the second edition, which, by chance, found its way into a second hand store and Mr. Whitney was fortunate enough to find it there and has been able to save it.

President France—But this subject carried over:

"A Building at Each Out Yard or a Motor Truck—Which?" by Mr. Bull.

Mr. France—I would say while I am waiting just a moment: That we may have to vary our program a little to accommodate some who cannot be with us all the way through, and therefore we will not stay with the program, as in print, all the way through and to those of you who want to know whether Wisconsin was represented or not, when we had our group picture taken the latter part of last week—there were something over fifty who got away from us before we got the group together (exhibits picture)—and that is probably a reduced copy which you will see in the bee journals in the Review.

The fact that these are fairly good size meetings shows the interest, and the fact that we had an interesting meeting—all were enthused and I believe we have accomplished something for which I alone have been working for years. Now our university at Wisconsin sees the need of co-operation with the State Association. We are to join in co-operation with them and things we hope will be accomplished this next year.

We have already under way a Bulletin to be issued at the university for the benefit of Wisconsin bee-keeping.

Although not on so large a scale as Father Yaeger has been able to secure for Minnesota, yet we are under way.

Has any one a volunteer paper while we are waiting for Mr. Bull to come in?

I do want to have one feature quite prominent—that is the Question Box; that should be prominent.

If any of you have questions, will you get them written out and I will see that somebody collects them in the near future.

Mr. Wheeler, will you, in the absence of Mr. Bull, for the time being, distribute some of this paper and we will collect any questions you care to bring up.

You know a colony of bees don't like to stay clustered long—something wants to be doing, and, when a cluster of bee-keepers are together, they must be kept busy.

Although we will try to take things

in their order, and while we have with us those who cannot stay through the entire Convention—Doctor Phillips is here with a paper which is alone, if you lose all the rest, worth more than it has cost you to come to this Convention—and while we are waiting for Mr. Bull we will change our program sufficient to give Doctor Phillips the floor at this time.

Doctor Phillips—Mr. Chairman—members of the Chicago-Northwestern Convention: Your President has said that I do not intend to stay through the meeting. I do expect to be away a little while this evening, but he cannot get rid of me before this meeting is over.

I might say I have had the pleasure of attending ten conventions of bee-keepers, one right after the other—six the past month, and I have been the only one who has had the pleasure of going to all these meetings.

Other bee-keepers have joined me at the different meetings.

It has been a great pleasure, and more than that it has been of great profit to attend the various meetings of the bee-keepers in the various states.

I cannot look forward to any great amount of pleasure in traveling for months from Convention to Convention. It may seem like a vacation, but I am ready to quit. However, I would not want to deprive myself of the pleasure of meeting the bee-keepers I have had a chance to meet during the past month.

The subject I want to talk about this afternoon—"Out-Door Wintering" I feel, is one of very great importance to the bee-keepers of this country.

According to the best figures that we can get, bee-keepers in the United States from north to south, from the Atlantic to the Pacific, are losing about ten per cent of their colonies every year. That is a minimum loss, and occasionally it is greatly increased.

Let us put it another way:

Suppose that we live in a country where the tax we had to pay was ten per cent of our income. Every time a man made $1,000, the state took away from him $100; we know that would be a tremendously heavy taxation, yet that is the tax the bee-keepers are paying year after year and they are doing this without complaint.

We are being put to an expense that can readily be avoided.

If the principles of wintering are practically worked out, there need not be more than one per cent loss. The reason why we should have any loss at all, perhaps, needs explanation.

Accidents may happen in the best regulated apiaries, which the bee-keeper is not there to adjust, consequently we will have loss in the dead of winter.

We often hear bee-keepers say, "I never have any winter loss; my loss is practically nothing."

I have heard that time and time again and have seen some of the apiaries in which this loss did not suppose to occur.

It is not the winter loss in the total number of colonies that die, but the total number of individual bees that die, and until we can get every bee through the winter in good shape, that is, until we can have 100 per cent of them alive and vigorous and in strong shape for spring—that should be the object of the bee-keeper.

Out-Door Wintering.

See copy of paper reported under report of Illinois State Bee-Keepers' Association, Springfield, Ill., page 51.

President France—Now from a paper that has taken so much study and thought, if you want to discuss it before we take up another paper—

Mr. Smith—I would like to ask if that paper will be printed. Will it be possible to get it into print?

President France—Yes, I may say I was selfish enough last week in our State Convention to ask if it were possible that the members of our Convention might have printed copies of it; and Doctor Phillips said: "You now have them"—and he left us a bunch of them.

I wonder if it is possible to get some of them here.

Doctor Phillips—I think there is a bunch in the State that has been misdirected; I will try and get them.

President France—There is enough in that paper that it will take time for us to study and digest, and I feel that it is worth enough to pay us for coming here if we heard nothing else.

When we are losing ten per cent or

more of our capital stock, it is high time that we pay attention to it. The system of properly wintering indoors or outdoors is nicely cared for in this paper.

President France—I am going to take the privilege to vary a little further in our program, as some of the busy people are hard to get and keep them long.

Although it is not the hour assigned for this paper: We have the privilege of having Mr. Burnett with us. I know Mr. Bull will stay with us through the Convention and we will have his paper later; and I am going to favor Mr. Burnett at this time and follow with his paper.

Mr. Burnett—Mr. President, you and I have never had any difficulty that I know of—and why he should want to make a martyr of me on this occasion, I cannot quite understand, and through his energetic and unassailable Secretary—here I am.

Now what you can make of me on this subject I do not know. I am of the opinion that if this question was assigned to each member here it could be answered to their own satisfaction. I cannot do it.

I suppose that this question has been asked me a great many times. I think up until this time I have been able to give some kind of an answer; what it was, I cannot now recall, but it depended upon the individual who asked it.

If it was asked by a man whose intelligence was sufficient to answer that question himself, I presume I simply smiled at him. I don't know that I can do much better now.

Mr. Wheeler—What is the question?

President France — Why the low price of honey?

Mr. Burnett—That is a poser and don't you forget it.

I see some of my old friends here, wiseacres, smiling at the fact that they all know.

People come in and ask me the question and know I cannot answer it, but they want to see how it works on me.

It does not work well, but I am indeed sorry that this question has been assigned to me, inasmuch as the gentleman who has just preceded me, and whom I have never had the pleasure of meeting or listening to before, was master of his subject.

That places me in an embarrassing position.

Of course I might say, and I have jotted down a few reasons why:

That too much competition is one reason.

Now if Mr. Wheeler here, for instance, had the selling of all the honey, there would be no low prices.

The trouble is honey is not a self-seller.

I think it is all of a quarter of a century ago when bee-keepers' conventions were in their infancy, that we had Mr. Heddon here and the man who, I believe, founded the American Bee Journal, and Doctor Miller, then in his prime, and quite a lot of fellows—Mr. Hoffman—

And the question came up in Convention: What was honey? Was it a staple—was it a necessity—was it a luxury?

There was quite a lot of discussion, and I had not said anything, but Mr. Heddon jumped up and said: "There is a man here who ought to know how to answer that question."

I made very much the same reply as I do here today. It depends on the individual—what he considers is a necessity—what he considers a luxury or a staple article. His opinion is biased but it governs that very largely.

However, I think that the idea of the third question there, that of luxury, holds good today, for it is one of the things that people will cut out from their table when the times are hard and money coming scarce; they consider honey a luxury.

Then there is another difficulty. Most of the people try to undersell the other fellow.

That is a very difficult thing to overcome. The great reason, or, I might say, the frequent reason given is oversupply of honey.

An oversupply of anything will make low prices. I think this is a fact that none of us cares to dispute.

Then comes the question of underconsumption. If the consumption was sufficient to take care of the supply and the price of the commodity was fixed when the season opened, why, it would be a fair remuneration for everybody concerned.

And then there are too many in the business. Now which one of you will drop out? No answer.

A member—Why quit? It is not a

matter of choice; we simply can't quit. I am in that class; I have to recognize it.

Mr. Burnett—Now then comes the great question we are all living for: The educating of the people. It is a lifelong task, yet, in my opinion, necessary. Although I believe the Bible tells of honey and how honey was found in peculiar places and that honey was consumed in that time, but I can remember here when honey was hardly used at all. I began to sell honey in this city in 1877 and there was very little of it coming in then. There was a little honey that came from Michigan, a little out here from Dundee section and so on, but not a great deal of honey came on the market until five or six or seven years afterward.

But a great hindrance to the sale of honey is an inferior quality offered to the people.

I don't know of anything that hurts the sale of honey so much as for somebody, some family to get some honey that they don't like. They simply put it away and honey is tabooed, for dear knows how long, until perhaps some one comes along and lets him taste his honey.

Then he will say: "That honey tastes pretty good. We quit using honey; we don't like it; none of our folks will eat it. We got some honey that we did not use."

This getting of unripe honey or honey flavor that does not suit: I remember very well of an intelligent man who came in and bought a case of honey of us, I think more than a quarter century ago, and he picked it out himself. He took it home. He paid cash for it. He didn't take any bill.

He came back a few days afterward and explained that he had bought a case of honey some time ago and didn't get any bill for it and he wanted a receipt for his money.

The matter was looked up. He gave the date when he came; the cash record was found and he was given a bill and receipt.

Now, he says, "I want my money back." We asked him why he wanted his money back; he could not hear very well; I remember he was very indignant.

He said it did not make any difference; he didn't care where the honey came from; he had been cheated anyway. "There is no more honey to that you gave me than there is to a turnip."

Now it happened to be a quality of honey, though the color was right, that he knew nothing about, and he condemned it as some manufactured product of which he had no knowledge; but he knew that he was swindled; that is what he was sure of.

Now as to the fixing of a price for honey—what honey could be sold at.

I don't know that there is any commodity of commerce on which you can fix an absolute price with one exception, that of gold; gold is the only fixed product.

President France—Any one else anything further on this subject?

Father Yaeger—Mr. President: the President of our Bee-Keepers' Association up in Minnesota used to say when you want to have a lively meeting, every time when the other fellow says "Yes," you say "No," and, when he says "No," you say "Yes." There is nothing that will bring out things more sharply than when we have subjects here with opposite views expressed.

I have heard what this gentleman just now said and I am surprised to hear it.

Our Association holds opposite opinions and, if any discussion can come from it, I would like to tell you what we think of it.

Now, first, you say that honey is a luxury. We have discarded that thought altogether and have concluded that honey is a staple article of commerce.

If we consider honey as a thing to put on the table like a piece of butter or a little dessert after dinner. it may be considered a luxury. But since we organized the Tri-State Honey Exchange in Minneapolis and have handled all the honey of Minnesota, and we have a central station from which all the honey of the state comes, and one salesman sells it all, we have found out that within two or three months a hundred thousand pounds of honey would come in and that honey would be sold at the rate of 10,000 to 15,000 pounds per month; in fact as fast as we can handle it.

This business of ours brought us in contact with some very prominent firms. We never thought honey was used so extensively in the United

States as we found out since we went into the honey business.

We know that manufacturers use carloads of it.

A branch manager of the National Biscuit Company told us (he was conferring with us about honey) that they employed a man who does really nothing else but go around and buy honey, and an extra salesman.

That doesn't look much like honey is a luxury.

Just before I left Minnesota, the Sanitary Food Company of Minneapolis sent word over to us if we could manage to quote them prices on twenty carloads of honey.

These are only a few that we have found in a small village like Minneapolis. What about Chicago, Philadelphia, New York and the big states in the east, of which we know nothing?

If we discover a demand for carloads of honey in the far west, what must the conditions be down here? I think we had better change our minds. I said, yes, because the other gentleman said, no. I would suggest you change your minds and begin to look on honey as an article of commerce.

We speak about over-production of honey. What do I mean by the words over-production. When there is so much of an article produced, it cannot be consumed.

I grant, for argument sake, there is an over-production of honey just about this time when the crop comes in. Let us say, in November up to Christmas, an over-production of honey comes to the United States, but if we go to the stores anywhere in March and April, May, June, July and ask for honey you cannot find it; there is none to be had.

When we speak about an over-production of wheat, for instance: We may speak of an over-production when our elevators are filled; the farmers say everybody is producing wheat, but remember, next June when there is no wheat stored we have to eat wheat just the same.

We cannot say there is an over-production of honey until honey is represented on our counters for sale the whole year round and every day of the week; then and not until then can we say we have too much.

In our experience in Minnesota: We are dealing in honey.

Just as soon as the fall article is sold, as soon as the people rush in from the country with their honey, we have an over-supply and have to store the honey in storage houses.

When I left Minneapolis there was 80,000 pounds of honey in hand. Any one would say, to look at that, there is an over-production of honey.

That honey will be sold in March, and in March we stand in the open market and say: "Where can we supply our trade?"

We supply 600 stores in Minneapolis today.

We had to, last March, import honey from Michigan and Idaho.

Before Easter I am sure we will have to import carloads of honey to supply our demands for stores, or quit.

I suppose certain people that have been eating honey up to March, they cannot get it any more; and they say, "Oh, yes, let's have some Karo syrup or some molasses or other stuff, and they start in to eating karo and molasses in March, April, May June, July, August, and by the time they can get honey again they have acquired a taste for molasses and we have to educate them all over again.

Moreover, an over-production of honey would decrease the price. I wonder if you all agree on that. It is a paradox, gentlemen. A paradox is a statement seemingly contradictory.

Just like a man making a machine; he has it figured out in his mind just so; he goes to work and builds the machine and it doesn't work; that is a paradox.

It doesn't work that way in practice. Why, I don't know.

I will give a few examples: Take butter:

Butter twenty-five years ago, was eight cents a pound.

Every woman churned at home by hand and sent it to the grocery store and got eight cents in trade.

Some smart heads, as they were called in those days, started a creamery. I was on a farm in Minnesota at the time. The farmers gathered around the grocery store, cursing and swearing, because there was to be a creamery—that every fellow will have a cow and butter will be brought to the store and given away; they were all opposed to creameries and were fighting them.

What was the result?

Now Minnesota produces 400,000 pounds of butter and in the last year sold 61,000,000 pounds of butter at 35 cents.

The supply was increased over a thousand per cent. The price went up 500 per cent.

Another reason:

When this country had only 20,000 miles of railroads—the freight rates and those things were low; the men who had railroad stocks got smaller dividends; the rates were very low.

Now we have a railroad to every village and town and the railroad rates are three times higher; the more railroads they build, the higher are the rates.

So, also, I might say with honey; as soon as you produce so much honey that we can have it the whole year through, without stopping for nine months, the price of honey will go up.

Just as long as people can have it only for two weeks and no more, the price will not rise.

By all means, I say, produce more honey.

Mr. Wheeler—What is the name of your firm, in Minnesota?

Professor Yaeger — The Tri-State Honey Exchange.

Mr. Burnett—Most commendable. I think he can't be in the position of a gentleman I heard of in Minneapolis some years ago, who was a member of the town council there. You notice that he didn't say anything about St. Paul.

Father Yaeger—Excuse me. When I come to Chicago, I don't talk about South Chicago.

Mr. Burnett—I don't think, Mr. President, that is quite fair. I am not going to spare him now, I thought I would.

We were talking about the Bible in public schools. In Minneapolis some of the members of the board were in doubt as to the advisability of introducing literature of that kind into the public schools, and one man said he didn't know much about it, and they furnished him with a Bible, so that he could study it in the interval between that and the next meeting of the council.

At the next meeting he was to make his report, and, I understand, he did it somewhat after this fashion: He said, "I have readed that book and I see a good deal about St. Paul, but nothing about Minneapolis!"

Mr. Smith—I believe that we need more information, more scientific information on honey.

I would like to know, if it would be possible, whenever I put a spoonful of honey in my mouth, something about its value.

I would like to know, when I eat a spoonful of honey, how much corn meal I would have to eat to get the same value, or how much of any other kind of food.

I have been reading everything I could get hold of on that line for the past five years and cannot get hold of very much that is of any scientific value.

I know of a person whom I have been trying to get to eat more honey for the past five years, that goes to a doctor once a week or once in two weeks and gives him $2.00 to inject some medicine into his arm.

This medicine comes from Italy. This is done in order to get a little iron into the system.

Well, now I have gathered from reading bee journals that there is iron in honey; that it is there in the best form to be assimilated by the human system.

Some of our best doctors say you can drink all of the iron that it is possible to get in liquid form into the system and it does not get into the system by going into the stomach, because it goes into the stomach as iron; it has to go into the stomach in a different form.

I believe Doctor Miller has said that honey contains iron in proper form for the human system to assimilate. He also says that it contains other ingredients for the system to have. He is a pretty good object lesson. He is over eighty years old and has eaten honey every morning, I believe, for fifty or sixty years, I believe, he says.

If we could get some scientific statements as to the comparative value of honey, in regard to what other foods have, it would help very largely in the sale of honey, because American people are waking up to the fact that they should know of the value of foods.

I saw, in the American Bee Journal, a statement giving the comparative value in cents, in a certain town in Iowa, in different foods, showing that honey is much cheaper than many

other foods we thought were a great deal cheaper than honey.

But we don't know exactly how the prices in that country compare with the prices here.

What we ought to know is, how much food value there is in a pound of honey; then how much food value is there in a pound of steak and a pound of butter, and other foods, and by comparison we would know how to get a balanced ration for ourselves.

We know ten times more about getting a balanced ration for cows and for horses than we do for ourselves.

If there is any way we can get more information on this and use it, then, I believe, we will be in shape to sell honey.

Mr. Miller—I think we are getting away from our subject a little. It seems to me that some of the prime reasons why honey is low priced have not been mentioned:

One reason, I think, is because the production of honey is increasing very rapidly, more rapidly than the consumption.

Maybe that ought not to be, but I think it is a fact.

Bee-keepers are keeping more bees. We are producing more honey and in very much larger quantities than formerly.

Furthermore, every fellow that has no bees is urged to keep bees. I think probably it is all right for those who are putting out bee supplies, to urge those things. I cannot see how it benefits the man who is in the business to urge every one else to enter the field.

I don't know of men in any other line of business who are urging someone else to compete with them.

We know that 95 per cent fail, but the other five per cent compete with us and bring down the price.

I can see how an increase in the retail prices might bring down the wholesale price. If we charge twenty-five and thirty cents a pound for honey, people are not going to eat so much of it and the bee-keepers will have honey left on their hands.

I know some of my friends have been for years advocating higher prices; it will work out in individual cases.

We know the wholesale dealer will consult the market when he buys.

You cannot raise the wholesale price; that depends upon supply and demand. You can sell honey to the consumer and she will pay any price if she has the money.

If people pay twenty-five and thirty cents a pound for honey, they are going to eat less of it. They have only so much money to spend and they won't spend more than they have as a rule, so that they will buy less if the price is higher.

I never found difficulty in selling all the honey I had until 1914—sometimes fifteen or more tons in the year, but in the last year I had to keep several tons.

People do not eat it so much; the prices are a little above them.

I sell in a small town where I sell practically all that is sold. People buy two or three or four pails, as a novelty, before they quit.

It has been said to educate people to eat honey.

They get tired of it. It is not a staple article like sugar. They will eat sugar every day in the year, but they will not eat honey every day in the year.

Doctor Phillips—I suppose we might as well continue Prof. Yaeger's theory when he said he would like to contradict men in order to start something.

I think my friend, Mr. Miller, is going at the matter backward, from the standpoint of the honey producer.

If I am wrong in what I say I hope Mr. Burnett will correct me; he knows more about the honey market in a minute than I do in a lifetime.

Probably 90 per cent of the honey produced in the United States is sold in the retail market; the other ten per cent is dumped on the market, about the same time, and determines the wholesale price.

On account of the European War the imports of honey increased twelve times.

The total amount of honey being imported into the United States is insignificant and yet added to this ten per cent being dumped on the market. the wholesale market is flooded with honey—

Now then, the American people could eat all the honey that is on the American market today, between now and Christmas almost, and pay a good price for it if they could get it in available form.

The difficulty is not that of over-

production, but is that abominable selling condition, for which the bee-keeper is largely responsible.

While it is the bee-keepers' fault, it is not one of over-production, but under-production.

There are very few bee-keepers who have honey on hand today.

They have disposed of it before now.

There are very few families that will eat honey long, after January 1st, possibly February 1st; and, until we can get enough honey produced so that we can supply the demand twelve months in the year, we cannot hope to develop a selling system adequate to take care of the situation.

The trouble is, there are not too many bee-keepers—not too many producers, but because we have not enough.

And what we need to have in the United States is about ten times more honey than we have today and the price will most certainly increase.

I don't think that can be questioned at all.

And here is another point:

Bee-keepers are at fault in several respects; they are selling honey, almost all of them, at too low prices.

I know of bee-keepers who are selling honey which every bee-keeper would think of an inferior quality, and get twenty and twenty-five cents for extracted honey, and the significant thing is they never have a complaint on account of the high prices.

I realize that bee-keepers do meet with complaints about high prices. It depends where they go to sell honey.

But what is the use? The bee-keeper ought to answer.

What is the use in trying to sell to people who object to paying fifteen cents, when there are people who will not object to paying twenty-five cents; we better go after that twenty-five-cent trade.

There is another thing that it may not be well to mention: You know of large dealers in this country who are selling on a large scale. I happen to know the price is 25 cents, as you all know, who are in competition with that honey; I also happen to know they expect to raise that price. If they can do it, selling as widely as they do, most assuredly people selling at home can get better prices than any firm selling nationally.

I feel strongly on this point because I know of cases in which bee-keepers are doing this thing.

I know of a little group of bee-keepers in this state selling a ton of honey today and getting 20 cents a pound, put up in tin.

I know that these same men have worked in Indiana and have gotten the same price.

It is sacrilege to put honey in tin, nevertheless, they receive twenty cents a pound; if it were put up in glass, probably the bee-keepers would get more out of it.

But what I wanted to get at was, it is only the stuff dumped out on the market that determined the wholesale prices; the men who sell the other 90 per cent at home get what they ask and almost always without complaint.

Mr. Bull—Candy sells for fifty and sixty cents and more, per pound, and there is more candy sold than honey. There is something there that tickles the palate, the same as honey. They will pay the price for honey if we give them a chance.

Mr. Burnett—Doctor Phillips made a statement here I can hardly let pass without comment, by saying that the ten per cent of the honey that is sold on the market regulates the price of honey; that is not a fact so far as my experience goes in 38 years in business.

Now, a member of this Association, one time, brought me to task because of the quotations that appeared on the price of honey, and, being asked the reason, he wanted a higher quotation.

I said to him: "Why, that is all the honey is selling for, why want a higher quotation?"

"Well," he answered, "when you quote honey at eight or nine cents a pound, I go into the grocery stores and they say, 'Oh, well, we can buy honey for so and so, for eight or nine cents.' And he says: 'Well, yes, I will sell to you for the same price.'

"They say: 'We get a better assortment and we can get what we want; you have only one kind of honey; we want different kinds of honey.'" "Now," he says, "if you would quote a little higher prices; I am selling my honey one cent a pound cheaper than your quotation."

Then there is another reason why this is not true—is not a fact:

The Doctor and his collaborator here

are enthusiasts; their age accounts for that. The facts are that they will moderate some of those ideas a little bit by and by.

Experience is a great teacher. I know that there is nobody who works much harder at it than myself.

I have met so many people in business, and, as I said here before, they have peculiar ideas, and there is no way of doing what the other fellow wants to do if it doesn't suit him. He is going to do what he thinks is best as long as he is a free agent.

This thing of producing more honey, to my mind, will not hold as comparison with butter.

The facts are, it has been given out what the real properties of honey are, as compared with another sweet. With some sugar made into another form, that we call a luxury.

Nobody will contend that candy is a necessity. I don't know; I am almost sure that, with an exception perhaps, I will be more liberal, of two per cent of the people who will maintain that they must have honey for honey's sake; now they will have candy for candy's sake, 90 per cent of them, but they won't cry for honey. That is, the great majority of them will not.

If we could overcome that objection to it; that is, in other words, I better use these terms and say. that if we could get a popular cry for honey as the cry is for candy, there would not be too many bee-keepers.

Mr. Wheeler—There is a point Doctor Phillips raised that I would like to inquire into, he made the statement that one-tenth of the people here were sold out of their honey.

Doctor Phillips — Very few bee-keepers have their full crop of honey on hand.

Mr. Wheeler—You said a certain per cent of this audience had so much honey on hand—I would like to know for my own sake how many bee-keepers are sold out of their honey. Raise hands.

Doctor Baldridge—We didn't have any.

A member—I think the main point in making a sale of an article is to bull it.

We have more wheat than we will ever be able to ship; the farmers realized it was valuable last year and will be this year. If he takes the same view of honey, he can get his value just the same.

I came from the east—and I said I will sell my honey for 25 cents and, in the fall, my eggs for 50 cents. The natural outcome is that the neighbors come around or telephone and say: "Have you any eggs?" The Mrs. will say, "I have two today." "I will come over and get those two."

The same way with honey.

I let it be known that I have the best honey; that there is no doubt of it, and they come right around and take it up, for 25 cents and 30 cents, and strained honey, too.

Mr. Miller—In reply to what the gentleman said:

Mr. Bull spoke about selling honey at good prices; Mr. Bull has made a success of retailing honey; he goes around to the larger places, to many people who have not tasted honey, oftentimes. As long as it is a novelty they will buy the honey, but if you go to the same place, to the same people, over and over again, they go just so far and quit.

I wonder how many of you would pay twenty-five and thirty cents a pound for honey, extracted honey, if you did not have the bees to raise it. You would eat sugar at five cents.

As to the food value of honey, it has approximately the same value as that of sugar and sugar sells for five cents.

The company Doctor Phillips speaks of—they put some honey into my town; one or two of our grocerymen loaded up pretty heavily. A fellow came around to sell it; he was a smooth talker; I don't think they will ever do it again.

Mr. Bruner—As to how much honey people will use, is not that a matter of education?

How much butter did people use? There was a time when not nearly so much butter was used as is consumed now.

There was a time when oleomargarine was not used. What brought oleomargarine on the table of such a percentage of the people of the United States? Persistent pushing; the putting it in the hands of the suppliers where you could get it every day.

If you could only get oleomargarine four months of the year, how much would be used?

We have to put honey in the places where all the people can get it better than they now do and we can make them steady consumers of it.

We need the people to put honey on the table and keep it there and we have to get them to do that.

The simplest and easiest thing to do is to tell your customers where they can use honey; give the ladies a cook book and tell them how to use it in cooking and show them how honey will save them part of their work.

There is not one woman in twenty-five in Chicago who knows the first thing about the possible uses of honey.

Some salesmen, who go out to try to sell honey, don't know scarcely whether they are selling shoe polish or hair oil; have no knowledge of their subject.

What do you have for breakfast? Fruit? If in January, what is it? Tell the people to put honey on that fruit instead of sugar, and see that you have the honey to supply them.

Tell them to put honey on their breakfast food; they put sugar and cream on their breakfast foods, why not use honey?

Don't sell them honey because sugar is selling for five or six cents, but sell them honey because it is something worth while.

Show them the uses of honey that they have not known anything about.

I have gotten together a Honey Manual. I am going to put it in the hands of my customers each month, showing them how they can use honey the year around; use it on their table 365 days in the year. Eighty pounds of sugar per head used each year; there is an opportunity to replace most of that sugar with honey in most families if we go after it.

You cannot prevail upon the ladies to change their method of cooking and baking, but we can show them that that here is a valuable food that will save them time and trouble and we can, by persistency, get them to use honey; we can get our customers to use honey every day in the year.

You have to help the dealer to do the advertising if you wish to sell honey that way.

This idea of sending it in to the wholesaler and letting him do the advertising. If you have honey to sell, do the advertising yourself.

Mr. Bruner—I wonder how long Doctor Miller has been using honey. Fifty or sixty years. I myself have been using it ten years. We get away with five pounds a week, a family of four.

A member—I don't think Doctor Miller uses honey only in his coffee and tea.

Mr. Wheeler—Doctor Phillips said that by increasing the amount of honey produced you will raise the price in proportion to the number of bee-keepers that are raising it.

Increasing bee-keepers will raise the price of honey?

Doctor Phillips—I said, increasing honey production would increase the price of honey.

Mr. Burnett—I think the Doctor is in earnest about this thing, but it will not be demonstrated during his time.

As a matter of fact my friend over against the wall put a hard one up to us with regard to the use of honey. From my experience I know families that have used honey for two, three and five years, constantly, you may say; they bought five gallon cans at a time, and when the time came again to supply them they were called up and asked if they wanted a supply of honey. "No, we have part of that last can of honey yet."

Why? I don't know, but they got tired of it. That is really a big thing; it is a fact that people get tired of it; they get tired of the use of honey, I don't care how good it is.

I heard the Doctor here ask, what kind of honey it was; it does not make any difference what kind of honey it is; so far as my experience goes, people get tired of it. I don't know that that holds quite so true with comb honey. Comb honey is used as a table dressing to some extent; it is pretty—and there are some people who like that and will buy it.

Now, for instance (I don't want to be personal) my wife won't touch extracted honey, but she will eat comb honey. I rather like extracted honey.

Mr. Kildow—I think that the people in this room and the people throughout the country get tired of honey. I have my serious doubts if there is a bee-keeper in this room that uses honey every day in the year. I know they get tired of honey.

I have been producing honey in a commercial way thirty years or more;

there are months at a time when we will not touch honey.

And, finally, we will want honey to eat; it may go for two or three months, then we will want it again.

As to getting a high price for honey? People will not buy it; it may work in some neighborhoods, but not in mine. The laboring classes will not buy honey if you ask them a high price for it; you can make some people pay it, but not all.

Father Yaeger—This is one of the strongest arguments I have heard in favor of honey. Men will eat pure honey for four or five years without getting tired. I never heard of one man yet, who would take sugar out of the sugar bowl and eat it for five years.

Honey and sugar are made to go with other things. They are sweets. Sugar is used in candy and pastries and consumed in that shape, and honey also must be consumed in the same manner, in bread in chewing tobacco, on breakfast foods—there is where honey is consumed. The amount of honey consumed is at least one hundred times as much as pure sugar consumed.

Mr. Bull—Some people never get tired of honey. For myself, I can say that ten or fifteen years ago I could not eat a meal unless I had honey; now I never care to see it. Whether it is the handling or not, I don't know. I find thousands of people the same way.

The idea is this: There are plenty of people and it will take us a long time to get to all of them, leaving a sample here and there; I have been a thousands miles from here; I do not confine myself to any particular town.

I have yet to find the place where I could not sell.

Mr. Damon—A whole lot has been said about the price of honey; that it was too high priced.

If you will allow me, I would like to submit a few approximate figures regarding the high price of honey, from some things which I secured from the Department of Agriculture, which determines these things.

One pound of honey has food value of 19 quarts of oysters, which ordinarily sell at somewhere around 35 or 40 cents a quart.

One pound of honey has the food value:

Of 2 1-3 pounds of oranges;
Of 2 pounds of dried beef;
Of 7 pounds of celery;
Of 4½ pounds of chicken.

I have twenty-five other articles here; I just submit these as comparisons.

President France—Just a word of my own personal experience on this line of marketing honey.

While at a little dinner today, represented by our American Can Co., this proposition of why don't you sell your honey wholesale to some of our dealers here who want it, came up.

Because I have a fancy notion the choice article ought to go to the consumer without a middleman, and my practice has been this: To sell it to the consumer and have him keep it on his table the year round, but I caution him, "Don't allow your family to overload the stomach, by which you become dissatisfied with it."

You want it there every day in the year as you do other staple articles on the table, and, as a result, take in my own home: My son, who is now outside of my own state, the year round, wants a teaspoonful of extracted honey at the table.

So many people have told me that they used to like honey, but they don't any more. At some time they have overloaded their stomach and the stomach now rebels. If you will be careful not to allow that condition, and, when you have a consuming customer, see that they are supplied every year with the choice article, I have yet to find enough in my own production to supply the consuming market in that way.

This market proposition is an important one, but we are running over our time.

President France—We will have a recess of a few moments.

President France (Convention recalled)—In this new age of advancement, when we have to lay aside old methods—comes the question as next on our program:

Is it worth while to have a motor truck?

Mr. Bull on that subject:

A BUILDING AT EACH OUTYARD OR A MOTOR TRUCK, WHICH?

Mr. Bull—Mr. President, I didn't have time to make out a paper on this.

The first cost? If a person has only one outyard you can build a building

cheaper than to buy a motor truck; if you have four or five or six outyards, a motor truck is the cheapest.

If you have a building there you practically have to own that land; that means another expense. If you can get just what land you want for a bee yard that would be one thing; but you might have to buy ten or twenty or thirty acres to get what you want.

Another advantage is this:

If you own that ground there you are pretty apt to keep bees there year after year, although there may be a better location within two or three miles of you.

The beauty of a motor truck is, that you can have a central location and you need own no more land except that.

In using a motor truck you can have your bees wherever you take a notion if you get the consent of the landowner. Offer him fifty pounds of honey, and he will say to you: "Now, don't forget to bring those bees back next year."

Some people might say, put up a building at the outyard; but if you do this the landowner is going to increase the rent.

If there is no danger but what you can move within an hour or two, he is not going to say anything. But if you can't move away then you have to come across.

Another advantage of the motor truck is this: In years like the last two years, you don't want too many bees in one place.

With a motor truck it does not make any difference whether you have ten or twenty or thirty hives in one place or another. It takes only ten or twenty minutes to crank up your machine, and you can make your circuit in a few hours, if you have good roads.

It may rain but you can put a chain on your tire and go anywhere.

The model trucks nowadays are a practical thing—not an experiment.

Another thing: The uses of the truck in apiary work: One way is to haul the honey home and have it extracted; and the other to do the extracting at each yard; then the honey has to be hauled home after it is extracted. Why not haul it beforehand?

In a small yard it takes as long to put your machinery in the outyard and take it down again as it does to bring the honey home and extract it.

Having your extracting outfit in one place you can put in a modern outfit, leave it there, and bring the honey home to extract.

I drive out in the morning and, the first thing I do, I get a lot of honey before the bees wake up, and I have been there and have gone before they know I have been there.

Another thing is this: If you have a building at the outyard, you have to have a wheelbarrow to bring the hives and supers, etc., to the hives.

With a motor truck, you can drive up to the yard of forty or fifty colonies and have the hives all around your motor truck and stop right there in the middle of the bees and put your supers on or take them off, or do any work you wish. You can drive around your yard, if you have more supers than you need you can stack them up there; pile up what you have left and let them stand there. The next time you come around, if you want to use them, all right; if not, they are right there when you do need them.

I have taken my truck and taken forty supers four miles, put them on the hives and back again within two hours. I have a slow speed truck, ten miles an hour.

You can go as fast as you please with some of the trucks.

Some say. "But there is the depreciation in your truck."

Well, a truck that a bee-keeper would use would last him a good many years before he would wear it out; and the advantages you have in the use of the truck are many times more than the depreciation.

In the two years I have driven a truck the expense has been but trifling for repairs; the cost of gasoline, insignificant; very little oil; the tire expense, nothing; the tires will last you three or four years the way the bee-keepers use the truck.

So, as for myself, I would not think of such a thing as having a building in the outyard. I can do more work, with less effort, with a motor truck.

Mr. Kildow—He says he can go out in the morning and load up a lot of bees before the bees find out he has been in the yard.

I don't know what kind of bees he has; mine find it out.

Mr. Bull—What time do you start in, in the morning?

Mr. Kildow—My bees are always awake, no matter when I get there.

I take it along after sunrise in the morning unless it is exceedingly hot.

President France — Just a word: About your getting those bees down and out of there?

Mr. Bull—I use the bee-escape.

If you want to take your honey off in the frosty nights, in October all right, but, if in July and August, use the bee-escapes.

I would no more keep bees without a bee-escape than to keep bees without a hive body.

President France—While that point of a bee-escape is up: Here (illustrating in hand) is a little sample.

How many of you have used the wire escape in preference to board?

(Not one.)

President France—Is it possible you don't know one of the things you are missing? When you can put them on and your bees will go down this escape in about half the time, if it were board.

I have something like 300, and I have cut out that thin board and used it for other purposes, and put the screen on.

You don't know one of the good things you are missing if you have not used the wire escape.

Again, this little feature came to my notice by a Norwegian at the Minnesota Fair a few years ago, in which, where this is wood, he had observed that the bees, like pigs, will follow the fence; the bees went round and round before they would go to the outlet of your bee-escape board, and he found, by putting a little guide in there, they would go down and out and still retain the fence idea; and use two in place of one escape.

Then they have improved the escape now by which it has an outlet both ways; it lets the bees out faster.

If you are using the old bee-escape, you don't know one of the good things you are missing. Next year I will not have any but what are wire cloth.

(Illustrating)—This would represent the full size of the hive.

President France—Mine are ten frames. This is made only as a model.

Mr. Bull—I have something like 150 or 175 moving screens; can I use those for bee-escapes?

President France—Certainly. The only question here is the depth; is it not considerably deeper than this?

Mr. Bull—It is not any deeper than that.

President France—That will work; and after you have once used them you will bid good-bye to your wood escape boards.

You retain the heat in extracting combs.

May I describe conditions between two Wisconsin bee-keepers?

I stayed with one over night. He went out in the evening and placed his escape boards and the next morning before breakfast he took his little girl for company and to help him, and he had his bees out of the supers on his arrival.

Before breakfast he wheels in as many hive bodies as he can extract during the day and, with his lifting hive device, he lifted those hive bodies full of combs to the upper room of his extracting house. Right underneath is a gasoline stove.

Before he went in to breakfast he lighted the stove and turned the light to a point by which it kept those hive bodies warm all day at about the same temperature that they were on the hive; as though the heat originally in the hive had never been released.

This is all done before breakfast.

After breakfast he starts the engine going.

After going upstairs, with a steam uncapping knife and this frame reversible extractor he finishes up the day's work.

From the honey extractor above, the honey runs through a tin tube in the floor to a strainer and storage tank below and by this gravity strainer took care of itself.

He made bee-keeping easy.

At noon that same day I was in another bee yard; the same number of colonies—where he was working the hardest I ever saw a man work in the bee yard. Everything done that was possible to make it hard work.

He picked up his hive bodies of ten frames and carried them up to the bee house where a helper did the uncapping with a cold knife instead of a steam knife; put two combs in one of the old style extractors. Then he had to pick up that extractor, honey and all, and set it on the table and waited for that honey to run out before he can wheel in the next lot.

That is the difference between management.

They had the same advantages in bee yards, and pasture, one having two hired hands and making hard work of it; the other doing it easily and enjoying his life with his bees.

Mr. Wheeler—Was he uncapping and running the extractor, too?

President France—In either case this one man was doing the uncapping and running the extractor. With the exception: Here is a gasoline engine running the extractor, and the other man had an engine for power to run his two frame machine.

President France—But I figure that time is money with my bees, the same as with myself. Did you ever stop to think of that? Right here is one of the things I have learned: (Illustrating the wire cage.) In the north this is more noticeable than in central and southern Illinois. How many days do we have honey flow? Almost count them in two weeks.

Is it not up to us to have those hives running very full of bees beginning with the honey flow? If we are going to do that, we are not only bee-owners, bu bee-keepers. We are drawing on that queen to that extent that she has served her mission and you are better off without her.

Bid her goodbye: "You have served your mission;" no swarming, young queen takes her place a little later.

You don't want that queen filling the hive body just during the honey flow.

If our bees' time is worth money, we must economize so as to save expense not only of the bees, but with our help. As for me, I have dropped three hired hands by having a bee house at each yard and an outfit at each yard. The first outlay costs considerable, but I hope it will last for years; within fifteen minutes from the time we arrive we are in working order; the machine bolted to the floor; the honey runs through the floor, through a tin tube to the gravity strainer and storage tank below; no chance of spilling the honey —and the convenience of having everything right there in the yard. No one there to watch the faucets and at the close of the day your honey is ready to be canned.

I thought seriously of putting an auto between my home yards as a means of quick transportation, but I am hardly yet ready to abandon my bee house.

You can go out in the morning when the weather is so that you can, being outdoors and indoors the same, and put your bees quietly in the cellar and you are home again in the evening.

A good many of our bee cellars are not so that they can be properly adjusted and ventilation is an important factor.

Before coming here, I took an old-fashioned automobile, my horse and buggy, and went to my out yard to examine my cellars, the ventilation and temperature. I could see only, in one cellar on the top wall of one, a few drops of moisture; that was the only place there was any condensation; the temperature was from 43 to 48 degrees. Forty-two degrees is about the proper temperature.

You want to keep a uniform temperature as near as possible and the bees will regulate the balance.

But we should have our paper.

Mr. Bruner—I have listened to Mr. France talk a good many years, and this is the first time I ever heard him give a talk telling me where I could save labor in producing honey.

To tell me how I can get the most honey from my hive with the least work—that is bee-keeping.

Mr. Miller—Mr. Bull and I operate in the same county. He has, I think, six yards, not very large ones; I have five somewhat larger; so we are in competition in one sense, but we are very good friends.

Mr. Bull has an auto truck, no building, no land.

I thought it best, where I did not own lands, to purchase and have buildings at three of these yards; from the other two I haul in an auto.

Whether or not it is advisable to have buildings, will depend somewhat upon the distance.

The distance from my yards is about fifteen miles from my home yards. It would not be practical to haul those supers and appliances I have to my home yard. While, if my yards were close at hand, as his are, I think it would be proper.

As Mr. France has said, I think it is more convenient to have a building at your yard. You have everything there. If you happen to forget something on your trip it is there waiting for you.

It is convenient when the weather is inclement; you can work inside instead of outside, and, if you are fifteen miles

from home, it may not be convenient to go home.

I think both plans are good, but it depends on circumstances.

I use the cellar for wintering.

In one yard I built a cement block house at a cost of $800; a cement floor, cement cellar, and all that, and the bees paid for it in one season; I had a net profit on that yard; of about 95 colonies.

The other two yards, one house is larger, the other not quite so large. Furthermore, I have an outfit of tools at each yard. I have an extractor at each yard and the small tools, a set of carpenter tools, saws, etc.; I have a full outfit of supers at each yard, together with all other necessaries.

President France—Don't forget the question box; Mr. Bull and Mr. Wheeler are on that committee.

President France—Among the papers on our program is "The Marketing of Honey," by Mr. H. C. Ahlers.

It was told at our Wisconsin State Convention last Thursday, as this Wisconsin brother was on our program, a party announced that last week or a week ago yesterday he was at Mr. Ahlers' funeral. He was making ready for another southern trip to Louisiana and was taken ill and has gone.

President France—"Selling Honey," by John Kneser, of Hales Corners, Wisconsin. I will allow our secretary to read Mr. Kneser's paper.

"MY EXPERIENCE IN SELLING HONEY AT HIGHER PRICES."

I have had considerable experience in the selling of honey, both to the wholesale and retail trade. I have sold this commodity since 1908 in the greater part of northern Illinois and the southeastern part of Wisconsin, to diversified nationalities. The variation in price fluctuated, of course, as to seasons and to localities; but the effort to sell the product always has been about as great in one place as in another, regardless of the season.

Since the theme of my paper is prices, I shall state briefly my experience why unreasonably low prices exist, and, if possible, the remedy for increasing prices. While quality is, of course, an important factor, I have always found the real reason for low prices to be the lack of experience in salesmanship. Subordinate reasons are, fear of even asking for a fair price, desire to meet the price of, or rather to undersell the competitor, ignorance of cost of product, cost to sell and what is a good price for a useful, wholesome and pure commodity, and last, but not least, the peddling of an actual inferior article. Perhaps a little personal experience, which is quite vivid in my mind just now, may be of interest. A farmer from whom I purchased bees threw into the bargain his three or four patrons to whom he had been selling honey for years at 11c per pound. I went to these people and sold them at my price, needless to say, by my usual line of argument.

The citation of this little concrete case proves what was said in the foregoing paragraphs. My experience has always proved that the thing to keep uppermost in mind is, at all times, to talk quality and to impress upon the prospect that the highest quality always demands the highest price.

This line of argument has always worked out most successfully to the retail trade or to the house to house trade, to which I usually sell in packages of the so-called two and one-half-, five- and ten-pound pails at the following prices: One 2½-lb. pail, 19c per lb; one 5¼-lb. pail, 85c, and one 10 2-3-lb. pail, $1.60; comb honey 23c per lb. To the wholesale trade, I sell little comb honey, but considerable extracted put up mostly in twelve and twenty-three ounce paper bottles, which I find very convenient and attractive, being just the thing for quick sales.

For a possible remedy, if this has not already been gone into sufficiently in the preceding paragraphs, I would suggest a few don'ts: Don't sell honey without first studying the elementary principles of salesmanship. Don't talk price until you have studied your customer or prospective purchaser, and don't talk price until the purchaser wants the article, and above all, have **quality,** talk **quality** and get a **quality** price.

JOHN KNESER,
Hales Corners, Wis.,
R. F. D. No. 19,
December 14th, 1915.

Mr. Stone—That is all very good but who can be a salesman like that?

Mr. Bull—If there is a person in this room who was a poorer salesman than I six years ago I would like to shake

hands with him. If you want to be a good salesman, put up an excellent quality of honey. I show my goods to people and, if they want it, all right; if not, the goods will sell themselves. You gradually work into it and find good talking points; you gradually work up to it.

Mr. Bruner—I dare say Mr. Bull or some of the other members here, if the bee-keepers were interested in the problem of how to sell to the consumers or retailers, I dare say Mr. Bull or some of the other members would give us some valuable pointers.

I know that it does not require, especially, salesmanship to sell honey. I have order takers selling honey. They happened on to somebody here and there who wanted honey—but that is not salesmanship. There is salesmanship in connection with selling goods.

The first thing is to have quality, and you can sell your goods; you don't have to have salesmanship back of that, but it will help you. You don't want to go in to a party and say. "You don't want honey today, do you?" I have a man selling honey that will do that very thing.

Mr. Bull—They all have one answer, then, "no."

(Vice-President Miller takes the Chair, Mr. France being engaged.)

Vice-President Miller—Has any one any pointers on how to sell honey? We will be glad to hear them.

Mr. Bull—You are looking to me, I think, to give you some pointers: I most always have one question I put to the customer—but in the first place you have to look neat and dress neat; don't wear a dirty collar; or something like that: don't forget to shave. The question I most always put, first. 'Good morning, you folks like nice pure honey?"

I don't care what the answer; they may say yes, or they may say no, or they may stand there two or three seconds without saying anything, and I make up my mind I am going to get an order there. The salesman can tell usually before the customer says one word whether or not they are going to get an order.

I can't tell you how to tell that, nor can any one else; you have to learn for yourself.

The first question they usually ask is: What is the honey worth? What have you? I always carry samples. I open the cover and call for a spoon and give them a sample; if they like the honey and can scare up the price, that is all there is to it.

Mr. Coppin—I usually make an exhibit of honey at the State Fair and whilst there I get a whole lot of visitors who admire the honey. I usually tell them there is nothing sweeter they can take home than a cake of honey, and I generally in that way induce them to take some honey home.

Vice-President Miller—In my experience in selling honey I find it is frequently well to give them information in regard to things they don't know.

They have an erroneous idea about bees and honey.

In this way you can get the confidence of the buyer and it will lead to a sale.

Mr. Bull—These are not the only arguments I use; I have dozens of them. You run across a customer—some one that has been out on a farm and has seen two or three bee hives and oh, yes, they know all about honey. For this person, you carry a few views of your bee yards; pull these out and show them the pictures, and you have them.

Mr. Ufman—I am not well acquainted with the honey selling end of the game, but in other lines I have done selling. If any of you know what it is to try to sell books, go to the door with a smile, and have some one shut the door in your face: I have had some such experience. If you can only get to the people and get them to talking, that is the first thing.

A member—I would like to say that most of the honey salesmen, while they may believe the price they ask for honey is worth it, they don't say it in that way. They are asked the price and they hesitate before they say 20c a pound; and I think that anybody who hesitates over telling you the price is sizing you up and is ready to put on an extra 5 cents per pound.

A little farmer boy came to my place selling apples; I asked him what they were worth; he said: "We are asking 25 cents, but we will take 15 cents."

Some of you fellows selling honey are going at it in that way and you don't realize it.

I am looking at it from the buyer's point of view.

Believe in what you have to sell; I

can sell anything on earth if I believe in it.

Mr. Bull—Whenever you try to sell to the consumer anything that you don't believe in yourself he will know it every time.

Mr. Ufman—There is another point that comes out there about the price of the article: Mr. Bull mentioned a little while ago that the first thing a person asked was the price:

Show people your goods—and then tell them the price; never tell them the price first.

Mr. Bull—If they ask the price too soon, I keep on talking.

Mr. Smith—There is a difference in the ability of men to sell goods. Today I believe we should have the best expert salesmen for selling crops of honey that are to be had, and I believe they should devote their entire time to selling honey.

We may have a man who can produce from 20 per cent to 50 per cent more honey than, if you will excuse me, I will say, Mr. Bull can, but that same man might not sell 10 per cent as much honey as Mr. Bull; those two men would make good partners.

If he can get a partner who could produce more honey than he could produce, but who cannot sell one-fourth as much honey, it would be a good combination.

We know an organization of men who **can** sell the product.

It is quite evident that the producers as a whole are not good salesmen. It is a trade—it is a profession, and a great many people could never really acquire the ability.

Some men can sell honey and they can sell anything while others can sell hardly anything.

Mr. Bull—In regard to a bee-keeper's selling his crop of honey or having some one else sell it for him, I agree with this gentleman perfectly.

As far as I, myself, am concerned, I sell a very small percentage of my crop personally; I don't have time; that is where most of us fall down; we have not gone into the selling game and don't know how much it will cost to sell. We think we know how much it will cost to produce. We want to put some one out to selling honey for us.

Salesmen, I don't care what they are selling, will not work unless you are paying them. It costs as much to sell honey as to produce it.

If your honey is worth 10 cents to produce, it is worth 20 cents to put it on the table.

When you are paying a salesman to do that work you can get a salesman; you are not going to get much out of that 10 cents. You have to give most of that to a salesman.

Another thing: Don't send that salesman out and give him a price of 13 cents or 14 cents on that honey, and then go on selling by mail or any other way for 15 cents or 16 cents in the same locality he is selling in.

Right there is the whole thing in a nut shell; you hold up the other fellow. You don't know what it costs to sell honey until you go out to try to sell it.

If you sell to your grocer so that he has to retail it for 20 cents, and you sell all around him for 15 cents, what chance has he to sell?

Protect the fellow who is working for you, your grocer or salesman, and your problem is solved.

President France—I think there is a point that we, as producers, should take note of.

In learning bee-keeping: We take, as it were, a book, and learn it page by page; after we master the first page, we turn to the next and, after we have gone through the book far enough, we have pretty well learned how to produce. Some of us have learned how to manufacture and put it in marketable shape; a lot of us have not turned over to the marketing proposition.

Many of us do not know whether we are salesmen or not.

We have asked one or two to buy honey and they do not buy and we take it for granted we are not a salesman.

I am sorry to say that in Wisconsin —some bee-keepers are willing to sell to some wholesale man and sell to some one else at the same price. You cut your throat every time you do that.

We are trying to get it all and have the other fellow do the work for us.

President France—Marketing honey! Could we have Mr. Dadant with us who could handle this subject? But, as I announced before, it seems that sometimes calamities do not come singly; they have illness at their home and one of their family is in the hospital, and Mr. Dadant cannot be with

us. But he has done the best he could; he has contributed his paper, and the Secretary will read it.

"MARKETING HONEY."

By C. P. Dadant, Editor American Bee Journal.

The subject assigned to me for this convention is one that has been so harried over, and in which so little progress has been made that it seems difficult to bring up anything new.

But the addresses written for bee-keepers' conventions are especially intended to open each subject, with the purpose of bringing out objections, suggestions and experiences. In this way something new may be brought to light and I sincerely hope those who hear this may help towards the solution of what has become the greatest problem for bee-keepers.

Mr. F. C. Pellett, the Iowa State Inspector, has recently brought to me the suggestion that the neglect of honey as an article of food is due to the lack of official support to our industry. He says that honey is, towards glucose and all corn syrups, in the same relative position as butter is placed towards margarine. But butter is not neglected for margarine as honey is neglected for glucose. In fact no one, who can at all afford it, will eat margarine in place of butter. Yet margarine is so much like butter that deception is very easily practiced. I myself remember eating breakfast, side by side with a drummer in margarine, at a small country hotel and hearing my companion exclaim. "I thought they could afford butter in country towns!" He had recognized the taste of his own product. But, even after I was told of it, I could not distinguish it from common butter. With honey, it seems to me, the case is different. Any one, after tasting corn syrup and honey, ought to be able to recognize the difference in sweetness, the former containing less than 30 per cent of saccharine matter, while the other has about 80 per cent. As far as the contents in sugar are concerned, the poorest honey is worth about three times as much as corn syrup; and when we think of the substances used to transform starch into sugar, in manufacturing commercial glucose, we certainly should figure honey at four or five times the value of corn syrup.

But it is as Mr. Pellett says. There has been no active official support of honey against glucose. In the butter industry there is an army of officials representing the diverse interests of the dairymen, in the State Agricultural Associations, in the colleges, even in the state governments and the United States Department of Agriculture. The farming interests are carefully fostered, but the bee-keepers have thus far received scant recognition and their fights have been left in their hands. We all know how little efficiency there has been as yet in our Associations, whether State or National.

Yet, I believe, every person who is at all acquainted with the subject will agree with me that the unhealthiness of glucose, as compared to honey, is greater than that of margarine as compared to butter. The fight, if it is made for honey, ought to bring an easy victory. In this case what we need is to have, in our colleges, on our Boards of Agriculture, and in all official places where the dairy interests are cared for, men as active and efficient as those who represent the farmers' main products.

But is this all and will that be sufficient to secure an increased recognition of honey on the consumer's table? It certainly ought to help.

A very good argument concerning the food value of honey may be produced while the same argument does not exist in comparing butter and margarine. Those two substances have a very similar food value. The food value of honey has been shown by an entirely disinterested authority, W. B. Barney, State Dairy Commissioner of Iowa, and those of your members who have read the American Bee Journal for December have found out that, at present prices, honey is one of the cheapest articles of human food.

However, with all these convincing arguments, we will probably be still confronted, for some years to come, with the problem of creating an increased demand for honey. We must then consider the principal requirements.

Marketing honey can properly be divided under two separate heads, entirely different. The first is packing and preparing the product. The second is seeking customers.

Many bee-keepers who are unfit for drumming their honey market, or at least consider themselves unfit, are

quite expert in putting it up for sale in neat form. It takes cleanliness, and judgment. Comb honey cannot bring the value it deserves unless it has been properly stored by the bees in neat sections and is afterwards put up in attractive cases. It must also be offered in regular grades. The law which compels us to sort out the sections of different weights, so the retailer will not run the risk of offering a 10-ounce section at the same price as a 14-ounce, is really a benefit to us, though we did not realize it at first. All that is needed to make sure of it is to go out among the retailers. We make them secure against the most common complaint of the consumer, short weight, when we offer them a package in which each section has its minimum weight marked upon it.

The careful bee-keeper, who has supplied his bees with up-to-date supers and good foundation guides, is usually the one who also most carefully grades it. He is likely to put up his extracted honey, without a moat or a blemish, in neat tins or glasses. He crates everything so that it may travel without leaking. But he usually is the man who does not like to go from grocer to grocer, or from neighbor to neighbor, begging for them to try his product. I believe that, as a rule, he may be easily persuaded to advertise. This, of course, if rightly conducted, will make matters much easier for the drummer.

A very good advertisement, suggested by our old friend, the erstwhile cowboy, Doctor Bonney, is the little red slip, "Eat Honey," to be pasted upon everything, everywhere, as "Sozodont" used to be. It has been tried. The American Bee Journal household alone has supplied about a million of these, not only here, but in foreign countries as well. But that is not enough. Let me ask the question whether any of you have seen these slips in public places, except where you have yourselves pasted them? "Sozodont" was painted on the walls of buildings, on fences, on sidewalks, and I have even seen it written in almost inaccessible places, on rocky bluffs, along the Mississippi River, in letters ten feet high. Our bee-keepers cannot do that with "Eat Honey" stickers, but they can each spend a few dimes to call people's attention to a long forgotten sweet, of which the most respected authorities say: "Eat honey, my son, for it is good."

I will never forget the reply I received once from a good friend of mine, now deceased, who used to sell thousands of pounds of my honey, although he was neither a grocer nor a drummer. He was just an office man, busy at his desk almost from morning till night. How do you succeed, I asked him, in selling so much of my honey, apparently without effort? His reply was:

"My boy, there is no difficulty in selling honey. If I had to handle tobacco, or whisky, among my friends, although many more people use those articles than honey, yet I would daily meet people who would say to me: Aren't you ashamed of offering such stuff for sale? But honey? Why, no one objects to honey! Everybody knows that it is good, sweet, healthy. Only once in a while I meet someone who says honey has made him sick and I answer that he or she probably ate too much of it. The funny thing is that it is almost always true. The only question people ask is whether it is real honey, pure honey. And when I say that the producer of this honey lives in the country and is a friend of mine and that I can guarantee his goods as pure, I make a sale, especially if I can give them a little sample to taste."

That is all the secret of marketing honey. Make the people think about honey for a minute. Then let them know you have it and let them be convinced, in an **undoubted** way, that it is really honey from the bees, and your sales are assured.

I said that honey marketing could be separated under two heads, packing and drumming, but I have now mixed them up. I have tried to convince the careful producer and packer of honey that he can also be a good drummer. But it is out of the question to get some of our best bee-keepers started in peddling honey. One of our best producers said to me:

"I can raise honey as well as anyone and I can put it up in fine shape, but I am no good at offering it for sale. If I make a trial at it and go into a grocery, if they say no, I walk right out without trying to argue the point and I am ashamed to try the next. When it comes to going to private houses, it is still worse. I always feel as if they considered me as a book

agent or a beggar. If I happen to have enquiries, it gives me a little courage, but, just as soon as I meet a refusal or a doubt of the quality or purity of my product, I want to be a hundred miles away, as soon as possible."

There is too much truth in that statement for the good of honey marketing. The only remedy for that bashfulness is the securing of a good talker, or thorough advertising. However, with a little self-reliance, a man can get a start and, if he succeeds, he becomes encouraged.

I cannot, too much, urge the selling of our crop or as much of it as possible, in our own vicinity. Personally, we have sold our own crops usually without difficulty and we now sell three or four times as much as we produce. But, even with all the advertising that we do, every now and then we find that other honey has been supplied where we could have furnished it, had we more thoroughly covered the ground.

This essay is already longer than I intended to write. So let me resume my views.

Cheap sweets, which can in no way be true substitutes for honey, are the greatest hindrances to its sale, since they apparently fill the demand, through the positive ignorance of the masses concerning the differences in food value and healthfulness.

So we must openly and unrelentingly fight the cheap sweets. We should **demand** the help of our agricultural officials and colleges in this fight.

To "Eat Honey" should be ceaselessly urged upon the public. Those little stickers are now offered by several parties. They cost but a trifle and ought to be posted wherever people can see them. That they do an immense amount of good cannot be doubted. We have received quite a number of statements to this effect. Of course larger methods of advertising should be used whenever practicable. I must here commend the A. I. Root Co., for the wholesale advertising that they have done. These things are for the common good of us all. If Mr. Root is present at your meeting, I would, by all means, ask him to say something on the subject, for he knows a dozen different inexpensive ways for bee-keepers to push their product, without taking the risk of being mistaken for book agents or tramps.

C. P. DADANT.

While we are on this subject of marketing and boosting honey—one, who was connected whole soul and body with our bee-keeping fraternity and who has had a good deal to do with the holding together of our National Association, and who has volunteered to get before us his idea of marketing to the extent that he is going financially into his own pocket, is here with us now, and we will hear from Mr. Williams at this time; he can add to this subject:

TEACHING THE FOOD VALUE OF HONEY.

George W. Williams, Redkey, Ind.

I was a little bit at a loss to know how to get at this paper. I had a little intimation there was going to be a lot of school ma'rms here, and they are not bee-keepers, and so I came loaded both ways, but I see I will have to stick to the text that has been laid down—

Ladies and gentlemen, I have one apology to make for this paper: I have been on the run for two weeks; I started to typewrite it and my car came along and I had to go; I can read my own writing immediately after I have written it, but not when it gets cold.

I entitled this: "Teaching the Food Value of Honey."

It is not my purpose at this time and in this paper to enter into a scientific discussion and analysis of the exact food value of honey. It has a food value of an exceptionally high order, placing it in the front rank of all foods, both prepared and otherwise. These values have been exactly determined by scientific men and are really attainable.

My object in presenting this paper is to consider ways and means by which this knowledge can be given to the general public through channels that will be efficient, and still be within the financial limits of the bee-keepers.

I will endeavor, however, to give an outline of the problem, for it is a problem and a vexing one for their consideration.

Honey has ever been recognized as a standard of excellence and luscious sweetness, among all the delicate and satisfying good things to eat. It is held in the highest esteem, all down the centuries, even to the times of our grandfathers, who regarded it as a necessity for sweetening, and a deli-

cate and attractive addition to the table.

But our forefathers did not have the need to consider the food value of honey as carefully as the present generation has to do, for good food was abundant and easily procured, and, like the fuel for the fireplace, was used lavishly. The high cost of living and the resulting care in selecting economical food did not enter into their list of troubles, at all.

Hence it is only in recent years that this surprisingly high food value of honey in comparison with other things has been determined and given to us for our consideration.

Very many really well informed persons do not know that honey has a real, potential food value, easily assimilated by the most delicate system, as well as by the most rugged and vigorous, and comparing most favorably with the best foods on the market, in cost and energy producing units.

I am indebted to W. B. Barney of the Iowa Food and Dairy Department, and to the American Bee Journal, and to the Indiana Entomologist office for the data to make the following graphic comparisons: I have reduced the units of value to the terms of cents and pounds, so that the significance may be readily grasped.

The present retail prices of all the articles are taken where prices are compared.

I find that the average price of honey is something less than 16 cents, so I take that price as a basis of my comparisons.

Beefsteak is considered to be a necessity on most tables and we will take that for our first comparison.

The actual food value of one pound of honey costing 16 cents is fully equal to 1½ pounds of the best sirloin steak costing 20 cents or more per pound, or 30 cents for 16 cents' worth of honey.

Eggs are universally considered as the most nourishing of foods, yet 8½ ounces of honey costing as many cents equals the food value of one dozen eggs costing about 28 cents.

Even milk, which is usually considered a very economical food staple, is slightly higher in cost than honey.

In the fruits and nuts, also deemed wholesome, and economical, the comparative value is in favor of honey, sixteen cents worth of honey equaling 48 cents worth of oranges, 24 cents worth of bananas, and 29 cents worth of walnuts.

These comparative tests could be applied ad infinitum with the same results. Always we find the comparative value of honey per food unit higher than that of all the staple foods, and immensely superior to any of the breakfast foods and other fancy preparations.

The cost of advertising this class of goods is so high that it leaves but little room for any food value in the product itself. There are good reasons for the relatively small use in the home. The honey producers are modest, measuring people, usually with small production per capita, and not all in touch with modern business methods, especially the great advertising proposition. They know, in a vague way, that advertising sells things, but they lack the special knowledge that must be applied to bring success. If the average housekeeper was asked to appropriate his pro rata to an advertising fund, in the extent that business men take as a matter of course, he would collapse with heart failure.

On the other hand, we see goods of an inferior value widely and cunningly exploited and "boosted" in the magazines, in attractive pamphlets and bill boards and by subsidized writers and demonstrators.

As a consequence, the price of honey has declined so as to practically reach the actual cost of production, leaving but little margin for expensive publicity methods.

In view of the high food value and the comparatively low price at which honey is sold, it would be a great boom to the buying public to have this knowledge brought to its attention.

The public now buys the goods that are advertised.

It is not now buying honey to the extent warranted by its merits, because it is not advertised. The public and the producer would both be benefited by its freer use.

How shall it be brought about? In this state and in most of the others, we have a large number of earnest, conscientious women whose serious business in life is to teach the future housekeepers the comparative value of the different foods offered in our markets, and the economical preparation for the table.

I refer to the Domestic Science instruction in our public schools. These earnest women are the ones who will mould the minds of the future generations of housekeepers, while they are yet plastic and capable of vivid and lasting impression.

These instructors are interested in securing facts in regard to honey, as well as all other foods, and will gladly give to their pupils the truth in regard to honey and its proper value in the menu and cooking.

But these instructors are not familiar, themselves, with these things. In fact, the heads of the departments in various states have expressed their lack of accurate information on the subject of the food value of honey. As yet, no systematic effort has been made, to furnish this to them in proper form.

It is proposed to do this. Already Indiana, Illinois, Minnesota and one or two other states have appointed committees of their best men to interest the proper officials and secure this co-operation.

In Indiana, I am glad to say, the educational department has gven us assurances of hearty co-operaton.

It will be necessary to furnish the facts and figures, and occasional bulletins. And this will cost some money.

However, it will not cost the one-thousandth part of a newspaper campaign of general newspaper advertising, and it will be more efficient and lasting in its offices, and it will continue to grow with the growth of the Domestic Science Department.

The principal expense will be to prepare the proper literature for the information of the teachers. Part of this is already available from the Government Bulletin, at no cost to us, but must be supplemented by others of different characters.

Steps have been taken to meet this expense and support the movement by forming an organization, national in its character, to carry out this and other similar policies that may appear later.

The same literature can be used interchangeably in the schools of the different states.

A number of bee-keepers have been approached in all parts of the country, and the appeal met with a general request for definite action, and a number give assurances of financial support.

The results of the steps taken, both in interesting the state officials in co-operation and the general readiness of the producers to support the move when launched, seemed to indicate success for an organization of this character.

This is an opportunity that presents itself only once in a decade. The school system is now in its formation stage.

The officials and teachers are receptive. The methods have not settled down into the ruts that will come later. We have a product of sterling work to present to the public at a moderate price, and the public will accept it when properly presented to them.

The cost to teach each housekeeper will be nominal, compared with benefits to be derived.

I have the assurances of a number of housekeepers in this state who have already expressed their willingness to join such a movement.

I will be pleased to secure additional ones here at this meeting.

Mr. Stewart—He spoke of the food value: The average consumer does not care for food value as long as it tastes good.

President France—There is one thing we have not had. I believe that some of the best meetings ever held in Chicago were where there was no program but where the question box was the whole, live proposition, and it has not come to the front in this meeting. If you will write some questions, we will start things going. Let us not make a long discussion out of any one question. Here is one right here, along the same line of thought:

Question—How shall the selling price be determined?

Mr. Bruner—In that connection I would suggest there ought to be some decided movement toward educating the bee-keepers of the country as to the difference between retail and wholesale prices. This Convention ought to appoint some committee to see that the bee papers have printed the difference between retail and wholesale prices.

The average bee-keeper who does not come to the Conventions takes up a paper and sees the wholesale price

and there is where one gets his idea of price; he puts his honey in tin and sells it for eight cents.

There is an opportunity to do some real good work. Go after these bee-keepers and hammer it into them that they are knocking us by not telling the people the retail prices of honey. Ninety per cent is sold at retail and there is nothing printed showing what that 90 per cent of the crop ought to be sold for.

Question: What constitutes a strong colony of bees in spring, in summer and in the late fall?

Can any one answer that? What constitutes a strong colony of bees in the spring, in the summer and in the late fall?

President France—If you have an old queen, and, in another hive, a young queen, you will very soon decide which is the stronger.

I am not satisfied when dandelion bloom comes but what I have eight or nine combs nearly full of worker brood with lots of hatched bees, and I want two hive bodies full when white clover comes.

Mr. Stewart—Eight or ten frame hives?

President France—Ten frame hives. Eight is too small for extracting hives for me.

Mr. Miller—It would be interesting to tell us how you get two hive bodies full of brood by that time.

President France—Primarily, a young queen; a statement I made more than twenty years ago. How much honey do you consider necessary to winter a swarm of bees? A little too much in the fall of the best you have is just right next spring; don't be afraid to have too much. If we have anything that is a miser on economy, it is the little honeybee.

Mr. Allen, Treasurer of our State Association, questioned me. I said, "Mr. Allen, when you go home, take one of those combs that is full of honey, out." He said: "I have hives heavy with honey and still I can't make them do as you say."

"Uncap a little of that they have in store, if you please, unlock the door. They would rather keep it as a bank dposit than to go and get it You uncap it and see if they don't use it for brood rearing."

He came back in another year. He said he took the comb sealed, capped honey, and uncapped it in the form of making my initials, N. E. F.; there is an illustration of how miserly my bees were. Every cell I uncapped, the bees took honey out for brood rearing, here are the rest not touched.

Feed them; keep them warm; keep them out of windy places.

We have lots of bee owners whose bees are out in windy places.

If you take Doctor Phillips's paper and digest that fully on the proposition of wintering, and keep that packing on as he says until warm weather has settled, all will be well.

My old style hives had packing on, the year round.

I want a hive that, if it were to swarm at the beginning of the clover bloom, I would have bees good enough for a good half bushel full.

Mr. Miller—Do you use queen excluder between the two?

No, I don't want anything to hinder the queen going into both hive bodies. I do everything I can to encourage brood rearing.

You go into the poultry line—(you say there is no comparison). You take early hatched chickens, crowd those chickens, and get winter layers, you have to develop in advance.

If you have crowded your queen to that extent you have a good big swarm of bees—you have over-crowded; her workers are there that are to do the field work for you and she has served her mission and her daughter or some young queen has to succeed her.

Now then: **Young Queen.** That young queen that takes her place, full of the same kind of vim and ambition, does not care to swarm; there is no need of any swarming.

How do we run these outyards? We go out and do what is necessary. In all our yards we had four natural swarms this summer.

I cannot afford to have my bees hanging out in clusters in front of the hive getting ready for swarming. I want them to work.

Question—What is stimulative feeding. Does it pay?

President France—I will say one thing, I have made my artificial pollen in the form of flour early. The bees will carry home lots of it, but every

time I have a lot of combs full of that stuff to melt later on; they will pile it in wholesale.

Question — How can you liquefy honey so it will remain in liquid form?

Mr. Bull—The only thing I have ever found that will make honey granulate is air in it. Take that air out and you have to heat the honey thin enough that the air will rise to the top.

Question: Can slightly soured extracted honey be safely fed after spring opens? Assuming that the honey is entirely free from disease?

President France—I would say, yes.

Mr. Bull—Heat it first, though.

President France—But let me caution you as to buying honey from unknown sources for spring feeding.

One of the most extensive bee-keepers in the state of Illinois inoculated his bee yard with American foul brood by feeding honey that had come from an unknown source.

He found it had come from western honey from an infected yard in Utah.

Question: What rental is a fair one for a bee yard?

Mr. Bull—Fifty pounds of honey.

President France—Well, now, that will depend all on local conditions. In some places that would be an abundance; in other places your bees may be more of a nuisance to the owner than you think for.

Mr. Stewart—Then don't put them there.

President France—Oftentimes the owner of the land will put up with the bees if I will give him a little rental.

If you can get a permit for a long term of years you can afford to put up a building with a cellar to it.

$10.00 a year, whether the season is good or bad, and have the use of the farm buildings; again, he is looking after my interest; at any time if anything is of my interest to know he can call me up by telephone.

Mr. Kildow—That lies with the individual.

Some places you can get it for nothing; other places you have to pay.

For one yard I paid $15.00; the next yard, three miles from that one, I gave the owner a little honey.

Mr. Wheeler—One thing in regard to the amount you pay; that hinges a little on the amount of trouble your bees are, whether or not they are a nuisance.

I have been a long time finding out the best place for bees: It is in protected places where there are plenty of trees.

Bees are more of a nuisance in the prairie, in open places, than where they are obliged to go up above the trees.

They will behave where they are surrounded by bushes and trees and have to get in the air before they start out on the trip.

Watch it a little, and whatever yards you have you will be astonished at the difference there is among some of the bees as to how they act in regard to stinging and chasing.

In one yard I have a high fence. I find that, with the trees and a high fence, the bees never molest any one; they have to go up in the air to get their line and get off without ever coming down to the ground; but where they are in the open and can see every object passing and moving about, they chase after them. It makes a great difference.

Question: Is co-operative buying worth while?

President France—Let me give you a little illustration:

In one corner of our state we formed a little local bee-keepers' association. The question came up on supplies. Could we co-operate and buy supplies cheaper? With larger purchases you usually get a better discount. They elected one of their number to do the buying of supplies for all the members.

It proved so nicely they called a summer meeting, and said:

Why not put some man now in as salesman of our product?

The entire crop was disposed of at one deal. All brought their honey by notice to the car and received cash for goods.

All were so pleased that they wanted to do the same thing next year, and all would have been well had that continued, straight; but there came an hour when that honey was sold and instructions were given to pay for it in two checks.

Suspicion arose and we found there was a profit going to this individual party that had not been agreed upon, and the organization has gone and is among the things of the past.

Yes, co-operation, if you will work together, pays.

I believe your Northern Illinois meets at Freeport and Rockford alternately back and forth, Mr. Lee, its Chairman; they group together and co-operate; he is sent out to look after the purchase of supplies and his expenses are paid. He saves to the individual, members over what they could buy supplies for otherwise.

Look at Colorado! They buy supplies in carloads and the members get the advantage of it.

There is a boy working up in one of the high railroad towers in one of the suburbs of your state, working a lot of switch levers; he said that 34 cars went by him last week of western honey, sold through co-operation. So we know it pays.

Question—How do you prevent bees drifting in an apiary?

Mr. Bull—Is that meant—When you are taking them out of the cellar?

I would take them out at night, preferably before a couple of cold days: take them out in the evening, open the cellar when dark; leave them an hour or two and they will never cause you any trouble; I prefer to do the work at night.

Mr. Kildow—That has been my experience.

Mr. Wheeler—There is another point: The drifting of bees during the summer: I have been astonished in watching them closely to see the bees when they have nothing to mark their location with; when they have nothing in the shape of trees or bushes or high trees; it is astonishing the way they will mix up; it is surprising to watch them.

I find the best way is to have them among the trees and the bushes and have something for them to go by. I have had that brought to my mind more strongly than ever this past summer.

Drifting, of course, is caused by the wind; sometimes when the wind is blowing one direction they will drift one way; another time they will drift another way; in case there is any foul brood or disease, they are apt to get badly mixed, but, if they had any object to guide them in finding their own hive, they don't get confused.

Mr. Miller—Mr. Bull's suggestion has worked; I have tried it a good many times.

Mr. Wheeler—I find they drift toward one corner of the yard, depending on the wind. They will get started going and will pour into one hive and keep pouring in. I have tried the plan of carrying that hive that they drifted in, into another part of the apiary; after you get a lot of bees started going into the hive and you will divide up those drifters, those drifters are lost. By carrying the bees and scattering them about in the yard as they go into the hives, you will divide up the lost bees until they are scattered all through your apiary.

Mr. Coppin—I have never seen any drifting of bees except in the spring when I took them out of the cellar, and occasionally it would appear as if they would all go out of the same hives—maybe two or three hives; if I took 100 out of the cellar, there would be two or three hives where they would swarm out together.

In regard to drifting: They always drift back to their own hive, with the exception of the first day I have taken them out.

I practice taking them out in the morning, when it was fine.

I have had few that would swarm out entirely and drift into some other hive.

President France—I remember in New York, at one of the State Conventions, where we had these old experienced men, the question came up—When would you take your bees out of the cellar? The question was put to each one, saving as the last ones, the Cogswell Bros., Mr. Alexander and those of large apiaries and a great deal of experience: Mr. Cogswell's answer was much as that of Mr. Bull's: Preferably in the evening before one or two cold days; he preferred to have cold days following, so that the bees will thoroughly settle down before they fly.

There will come once in a great while a year when those conditions don't prove out.

Another point:

We are studying European foul brood as yet in the dark and the cause of the spread of it: I am more convinced, the more I study this matter and get results, that the young bees

drifting from one hive to another have more to do with it than I give them credit for. They are the nurse bees; they are doing the feeding.

A man who was making a careful observation had, on one side, Golden Italians; on the other side, a little of everything; to my surprise we could find the young workers going in nearly any hive; they were not brought up there, but they were finding their way in and they will accept young bees almost anywhere.

Question: Does the production of honey pay the producer?

Mr. Bull—I think the mere fact we are here answers that question.

Mr. Stewart—Maybe it does. The last thirty-five years, taking into consideration the amount spent for hives, appliances and time, it has not paid 50 cents a day to the producer. You don't see a man, depending upon the production of honey for a livelihood, sending his boys to college; it doesn't pay the producer.

Mr. Wheeler—I think Mr. Bull's answer sounds well, but there are other reasons leading up to our coming into the bee business—other questions.

We find that the country is flooded with literature telling how much money people make producing honey; that the bees work nights while they sleep. The mails are full of it. This induces people to begin to keep bees. I regret to say that thirty or forty years ago I was fool enough to go into it.

When you get thousands of dollars invested, your lines drawn, your work laid out, you have to stick to it; you keep looking for a better year, and you continue from one year to the next.

It is the sorriest day that I ever had, when I started in to keeping bees as a business; this I can say after an experience of forty years, keeping bees.

I think this idea of Mr. Bull's sounds well and is true, in a way, we would not be here unless it pays. I am one of the fellows who has gotten in so deep I cannot get out.

Mr. Kindig—I believe it would be an unprecedented example of business that was 100 per cent a success. The history of the business of the United States 95 per cent failure.

Now if you are going to say: Does it pay, it looks to me as though you had to compare it with some other things that pay, or don't pay.

My experience and observation is—although I am very glad to have people think it doesn't pay—it is all right with me; my experience and observation is that bee business pays as well as any other business; it pays for the amount of capital invested and labor employed.

Mr. Miller—The bee business, like every other business, does not pay 95 per cent of those who go into it; the other 5 per cent are making good. It is the 5 per cent who study the business and have executive ability enough to make it pay. It is a cold day when an efficient bee-keeper can't make from $10.00 to $25.00 a day, or more.

Mr. Williams—The question is a vital one and we ought to take it seriously. If bee-keeping does not pay, why doesn't it pay? That is the question. If it can't be made to pay, we had better quit; if it can, let's go ahead and find the reason why it is not paying and make it pay.

Question: How do you blend honeys of two colors so the streaks will not show or the heavier honey settle to the bottom?

Mr. Bruner—Don't try to blend the light honey with anything; don't try to put it in with the heavy honey.

Mr. Coppin—Is the dark honey heavier than the light honey?

Mr. Bruner—That is the way the question reads—"the heavier honey."

I think, by that question is meant light colored honey; light colored honey and dark colored honey; they will mix pretty easily if you blend them hot.

Mr. Kindig—In regard to trying to blend honey, cold; my experience is, you go up against that granulation proposition right away; blend it cold if you want to have it granulate. It brings in bubbles of cold air.

Question: Is honey stored for food next spring fit for that purpose if there has been fermentation?

President France—It is possible we may feed honey that has slight fermentation in the spring. I would advise not to do it.

I would want to warm it and get the fermentation out of it.

Mr. Wheeler—What is the use of

feeding honey at any time? What is the use of running the risk of spreading disease by feeding at any time? It will always bring as much as sugar on the wholesale market. I don't see why we run that chance of feeding it back.

President France—Up in Wisconsin (not so down here)—our bee-keepers are miserly, and they figure that honey is money and they rob the little fellow that gathers it, too close, consequently they have to feed back again; it is poor economy; but after I have wintered them over and they have too much in the hive, that is the time I want to uncap it; unlock the door and make them use what they have in bank. They won't do it if you don't uncap.

I have seen bees, wintered outdoors, starve to death with thirty pounds of honey in that hive.

Question: Why don't you bring your wife to the Conventions?

A member—I can answer that; I haven't any.

Convention adjourned, to meet at 7.30 p. m.

EVENING SESSION.

Meeting convened December 17th, at 7:30 p. m.

President France: Our first topic—The Painting of Comb Foundation, by Mr. E. Hassinger; we will now hear from Mr. Hassinger.

WHY AND HOW I PAINT COMB FOUNDATION.

Edward Hassinger, Jr.

My experience with painting comb foundation with wax is limited to two years, and 3,000 Langstroth frames for brood combs and extracting combs.

Why I Do It.

First: To secure as nearly all perfect worker comb as it is possible to get in Langstroth frames.

Second: The bees will enter and occupy whole supers of this painted foundation as readily as they do supers of all drawn combs.

There is something about it that is very alluring to them; they will draw it into comb in the smallest kind of a honey flow, and will fasten the foundation to the end bars before drawing the comb.

In a heavy honey flow I have repeatedly seen whole supers drawn into comb 3-8 inch in length, in less than 24 hours, and some honey stored in the cells. If any one claims that the bees would not take time to thin down the base of the cell walls in a heavy honey flow I should say he had a freak colony of bees under his observation.

Third: I have reason to believe that it pays in dollars and cents. More definite statements could be made on this subject, if some one will determine just where the dividing line may be drawn between the voluntary and involuntary secretion of wax in the average colony of bees.

Can any one prove that a colony of bees with all drawn comb in the hive will produce more wax INVOLUNTARILY than is required to seal the ripened honey. If they do, what do they do with it? If they deposit it all in the hive in the form of brace comb, then I am satisfied that it does not amount to much, finding wax scales on the bottom board does not prove that the bees had no use for them in the supers, the question is, would the bees carry their own wax scales outside of the hive simply because the combs were all built in the hive?

A drawn comb, Langstroth size, contains about five ounces of wax. A sheet of medium brood foundation contains two ounces of wax. A sheet of light brood foundation contains one and three-fifths ounces of wax.

It takes no more time to paint a sheet of light brood foundation than it does to paint the medium brood foundation; therefore, the advantage is in favor of the light brood foundation.

I add not less than one ounce of wax to each sheet of light brood foundation; this would make the sheet two and three-fifths ounces in weight or one-fifth ounce more than half the wax required for a full drawn comb.

125 pounds of wax would make 1,000 sheets of medium brood foundation at a cost of 11 cents a pound, or $13.75.

As it takes only 100 pounds of wax to make 1,000 sheets of light brood foundation at 13 cents a pound, or $13.00, the balance in favor of the light brood foundation would be 75 cents in cash and 25 pounds of wax, not counting the labor of painting this wax on the foundation, but, as it is assumed this work would be done anyhow and enough more wax added to equal one ounce per sheet—assuming that it

takes 10 pounds of honey to produce one pound of wax, and, if honey is worth ten cents a pound, then it costs $1.00 to produce one pound of wax. Then, by buying wax at $.30 a pound, a saving or gain of 70 cents a pound is made.

1,000 sheets at one ounce per sheet would require 62 1-2 pounds of wax. Same at $.30 a pound would be $18.75. It would cost $62.50 worth of ten cent honey to produce this wax; the balance in favor of buying the wax and painting it on the foundation would be $43.75 plus 75 cents that it costs less to have 1,000 sheets of light brood foundation made, and have it better liked by the bees than any lighter or heavier foundation made by machinery.

The price of labor deducted from the above mentioned figures would still leave a favorable balance. It takes from 1 1-2 to 2 minutes to paint one sheet of foundation, Langstroth size, with one ounce of wax.

This work should be done in the winter when time is not worth much; in fact it must be done in cool weather. The foundation should be cold and the wax hot for best results.

I have my foundation made to order and have it fit the frame less one-eighth inch from each end bar, and one-fourth inch from the bottom bar. The most perfect all worker comb is secured with a space of three-sixteenths inch between the foundation and the bottom bar, but they must be drawn in the supers. I have ceased using foundation in the brood chambers entirely.

The frames should be all wired, and the foundation should be fastened and the wires imbedded in same before starting to paint same with wax. I do not want any combs without being wired, and I believe no argument should be advanced in favor of trying to get along without wires.

I use a small two burner oil stove, and a tin pan about eight by eight inches and three inches high. A wire screen is fitted into the bottom of the pan in such a way that the screen does not touch the bottom of the pan. This is to hold up the brush. Then wedge a square stick in between the sides of the pan at the top. The wedge should be in the center of the pan and nailed through the pan into the stick. This to brush the surplus wax out of the brush before using it.

The brush is an ordinary paint brush, three inches wide, with the hair or bristles of the brush four inches in length.

About half way between the top and the bottom of the hair, are placed two sticks, one on each side of the brush, crossways of the hair. Each stick should be four inches long and three-fourths of an inch wide, and three-sixteenths of an inch thick. Same are nailed together through the hair of the brush, tight enough to force the hair brush one inch wider at the bottom. To keep the sticks from slipping down, fasten same to the handle with a tack and wire or a crate staple.

With the brush fixed in this manner, much better and faster work can be done and no danger of closing the bottom of the cells with wax if the proper amount of surplus wax is brushed from the brush before using it. If many cells are closed with wax at the bottom it may result in drone comb being built on that spot.

After using the brush for some time, the bottom of the brush will form into a curve. This curve is an advantage in applying the wax, by brushing against the curve with the first stroke or two and then reversing the brush.

Use the same form to hold the frames with the foundation that you use for imbedding the wires into the foundation.

Only practice can teach you just how much pressure to use for a uniform distribution of wax over the side walls of the foundation.

The temperature to keep the wax at depends upon how fast you use it and the temperature of the room you are working in. The colder the foundation and the warmer the wax, the better it works. Have the wax broken in small pieces and add to wax pan continually as needed.

Mr. Hassinger—I have the brush here so that any one may look at it, and I have samples of a painted light blue foundation.

President France—My first experience, together with that of my helpers at home was, that we got too much wax on the brush. It takes a little experience to get it on as it should be, but it is an easy matter, and we have entirely abandoned the use of any more

brood foundation before it is first painted.

I promise myself to put about 1,000 sheets through the painting process and get ready for next season's work.

If you will put to use what you have heard read here, from this paper, that alone will pay you for your trouble of coming here.

If you want to ask Mr. Hassinger any questions on this painting proposition before we take up other subjects, I am sure he will be glad to answer them.

Mr. Wheeler—How many sheets can you paint in an hour?

Mr. Hassinger—That would depend.

Mr. Wheeler—You paint both sides at the same time, before you let that sheet go out of your hands?

Mr. Hassinger—Certainly.

Mr. Wheeler—Can it be used for comb honey?

President France—It can be done, but there would be no great amount of gain. I believe Mr. Hassinger has tried that.

Mr. Hassinger—The wax is all on the side wall, not any on the bottom.

Mr. Coppin—By painting the brood frame after they are wired, and put in place, after the wire is imbedded, it would make a more perfect job of brood comb; it covers the wire nicely.

President France—Anything further on this?

Mr. Bruner—Is there a tendency to get too hard, if it is put in too early? Would there be any advantage in delaying painting until April, say?

President France — Two or three years ago I had promised myself when I came home from the Sioux City National Convention, I would go to work painting. I had too many irons in the fire; I overlooked it until a few days before we wanted to take the foundation to my outyards.

Mind you, that was along in the fore part of June, but we painted about 500 combs, though it was warm, and I was well pleased. Since then we have learned to do it when our time is not so valuable and there is a difference in temperature. Wax is quite sensitive to heat and cold.

Although this last season caught us again in need of more frames than we had expected in making the increase, I think it was about the 12th or 15th of June, but we painted them although it was late.

President France—We have a paper on the "Efficiency in Manipulation of Bees and Production of Honey," by Mr. Miller.

EFFICIENCY IN MANIPULATION OF BEES AND PRODUCTION OF HONEY.

E. S. Miller, Valparaiso, Ind.

Mr. Miller—I ought to offer an apology for this sort of paper. It is something different from the ordinary paper given at this sort of a meeting. I see a great many people start out in other lines of business; and I think a word or two in this particular industry would give us encouragement and point the way and might be of use.

It is a worthy thing to be a successful bee-keeper.

It is more worthy to be efficient in one's work, to be able to organize one's forces, to accomplish the maximum results with the least expenditure of energy. The prime purposes of advanced education are the development of character and efficiency. Both are essential in order to accomplish the highest purpose in life.

In mechanics we are taught that the efficiency of a machine is the ratio of useful work gotten out of the machine to the work or energy put into the machine.

For example: For every 100 units expended upon the electric motor, approximately 95 units are returned in useful work, being an example of greater efficiency. So it is with human workers in every field. There are too many of ten per cent efficiency and too few who approximate 100 per cent efficiency.

We hear much nowadays of efficiency —of system—of scientific management as applied to mercantile business—to manufacturing—to transportation and other lines of human effort, doing away with an enormous amount of wasted energy.

In a small way efficient, scientific management is being applied to agriculture, in many cases with excellent results. Can the bee-keeper profit by these examples?

Looking about us we see in apiaries a great waste of time, energy and material. We find men giving their full time to caring for less than 100 col-

onies when a competent man with proper methods and equipment should be able to handle 1,000 or more without undue effort.

As an illustration: I knew a bee-keeper giving his whole time to about sixty colonies. He was a man of long experience, well-read in all the current bee literature and of more than ordinary intelligence. His successor handles 400 colonies and spends on an average about two days each week in a systematized mode of manipulation, his remaining time being given to other business. Furthermore, his average per colony is greater than that of his predecessor.

We see men working with odd sized hives and in poorly constructed buildings. We see them climbing trees for swarms and we find them examining one comb at a time, looking for cells in order to prevent swarming.

Sometimes we see three men endeavoring to remove honey from the hive, one to lift out the combs, another to brush and a third to hold the smoker. A fourth should be added to pull out stings. Such processes, although prevalent in some of the largest apiaries in the country, mean only a ten per cent efficiency.

For the purpose of discussion, efficiency in bee-keeping map be considered under the following heads:

1. Personal efficiency.
2. Efficiency in system of manipulation.
3. Efficiency due to proper equipment.

Personal efficiency comes through education. It presupposes not only a knowledge of all phases of the business but also the ability to plan, to organize one's forces, to arrange a definite system of procedure, and to execute with promptness and dispatch the work in hand.

An efficient manipulation depends upon the individual manager. It requires a thoroughly worked out plan of procedure based upon a thorough knowledge of the business. It requires the handling of the business in larger units, and the elimination of processes which are wasteful of time and labor.

Efficiency in equipment demands the use of the very best, though not necessarily the most expensive, equipment that can be obtained. It seldom pays to be handicapped with a poor outfit. The beeman's time is his most valuable asset and it is often wasted in an attempt to save expense.

Efficiency requires uniformity in size and style of hives.

If your frames do not fit all your hives and your cover won't go down, and your floor boards were made to fit something else, the result will be loss of time and money.

Proper equipment includes bee-tight hives, bee-proof and mouse-proof buildings. It includes a good workshop with its various necessary tools, benches, tables, shelves, etc.—with a place for everything and everything in its place.

Lastly, but not least, every apiary, whether for comb or extracted honey, should be equipped with an adequate extracting outfit. Of course the beginner may not be able to provide all these. His time may not be of much value at first, but, if he continues to follow this vocation, he should strive to better his methods and improve his equipment.

To the oldtime bee-keeper I have little advice to give, but to the young man entering this vocation, expecting to make it a lifework, I would say, go to the top. By all means get as thorough an education as possible and apply it in your work. A university training is none too good for a bee-keeper. It pays. It pays not only in greater accomplishments in your particular line, but, also, it leads to larger things in life. It places you upon an equality with big men in other walks of life.

Is there any reason why a beeman should not be the equal of a lawyer, a banker, or the manager of a railway?

Go to the top, but remember that among the greatest factors of your success will be efficiency and character and the ability to organize the forces you control.

Mr. France—Any discussion on this subject of efficiency?

I think it was two or three years ago, in September, I was, as I had been doing for several years, on my way to Minnesota to be at the State Fair; I took my son, now instructor in the University, with me, that we might learn something about the methods of a certain bee-keeper, before we got to the State Fair at Minnesota.

We reached the most extensive bee-keeper of the state, who was a man shorter and lighter weight than my-

self, but whose systematic management in the handling of 400 acres of land to a profit and 400 swarms of bees, with two hired hands a little while in the summer, was of greatest interest to me.

I said I want to learn something; I went there as a student and did learn a good many things. For instance: When we reached his station, about six o'clock in the evening, he was there to meet us. He immediately telephoned to his home some little distance from the city: "I have caught the birds, we will be home about 9:20."

My boy looked at me and said: "Do they live so far out?"

I said to him. "We are guests now, never mind."

He took us out to the restaurant, and as we had nearly finished he said, "I had better go out and feed my horse a little before I start out. I have a new horse." He took a gasoline can and went out and was back by the time we were through our meal. He had just bought an automobile, and we had to go to all his outyards and reach his home at 9:20.

He wanted that we should see what we could, though it was lamp light. I saw **System** demonstrated, proving that Time is Money, and management means Saving of Time. It taught me something; he had system made practical; he had an engine—an extractor—we went to each of the outyards.

A half hour from the time we landed, he had the combs going through the extractor. **System:** When that one man can handle 400 acres of land and 400 swarms of bees and have over 50,000 pounds of honey in his bee house, it is worth while that we pay attention to system.

In one of the bee houses, I noticed a large can with the uncappings there, with some bees crawling around in the cappings. Although we had only an automobile flash light, I said: "Mr. Hoffman, what do you have those bees here for?" He looked in surprise; "that is one on me," he said.

He started with his light to go around the edges of the room—"where did they get in?" He found the spot. "They didn't put that window up, did they?" There was a cluster of bees inside, and he made a note of this on a slip of paper.

All that season's extracting combs were in the supers, cross-piled in the bee house from floor to ceiling, doors wide open.

I said: "Mr. Hoffman, are you not in danger of getting bee moths in?" He replied: "No, we open the doors to let the bees dry the comb, and then we will kill all life by sulphur fumes."

"Say, do you fumigate this room with sulphur?"

"Sure we do."

"It must take some sulphur! Where do you do the burning of the sulphur? I am getting a little curious. Is there a chance of ever having a bonfire?"

"Well." he says, "we have had a fire twice."

"Why don't you use carbon-disulphide? You will be sure of one thing then, you will have no fire afterwards."

He said to me: "I have had that suggested before. Where will we get it?"

I told him where to get it, and before we reached home he had bought two little pint cans in a drug store we passed and he ordered a 5 gallon can. In short, the next morning he called one of the two hired hands and told him to get ready the horse and go over to such and such a place. "You will find a window was left down, and there are things there to be done; put a cloth over the uncapping can to keep the bees out. Put a little of that carbon-disulphide into that room; and you don't want to go in there with a match or anything with fire in it because Mr. France says that stuff forms a gas and is explosive."

He had his horse ready; it was one of those motorcycles—and you ought to see that fellow go off around the lake.

He telephoned back and said to tell that Mr. France that he has played mischief in your yard. We knew there were rats—now we can see them; they are all dead."

The point is this: When that man can manage as he does, it is system that enables him to do it.

He went with me up to the Minnesota Fair. He was busy taking in the exhibits and studying them, when a lady, a stranger to me, came up and said, "There is a lady who wants to speak to you."

And to my surprise it was Mrs. Huffman; she said to me: "Where is Mr. Huffman? The hive on the scales shows six pounds gain. Where is he?"

"Spanish needle and heartsease right in bloom and he left the queen at home watching the scales."

He said to me, "Good bye, France, I must attend to business."

The queen was doing the work in his absence; the scale told the condition of the weather, that it was changing, and that meant home, and he got a bigger crop in September than through the rest of the reason.

He is another crank on **young queens** every year.

(Applause.)

I believe that is just as practical and just as applicable to bee-keeping anywhere. If we learn to manage bees we will learn how to save expense.

Say, let us learn how to sell our goods and pocket the money.

President France—I would like to bring up a different line of thought. We have had it on the bee-keeper as an individual, his make-up and management, and these conveniences; now, there is the grand good social factor; it is hard to get it in any other way save at these meetings.

The social feature—that of coming together and exchanging ideas and experiences. I have attended a good many conventions in the last few years and I don't believe I ever attended one but I feel I have learned something that paid me for making the trip.

Although my father was a bee-keeper before me, and I had his experience to begin my learning,—as I go abroad and get the experiences of others I begin to find I am a beginner and can learn every day something; and I find there is one up in Wisconsin who knows all about the business.

Now the social feature has another side that has not come to your attention here.

In New York they hold two bee-keepers' meetings—winter and summer conventions—and they bring their better halves. They think more of the summer field meet as social meetings, and every housewife does her duty; she is going to the field meet in the summer; they have a basket picnic dinner together; that is where your time is worth as much in the social building up and getting together as these winter meetings; and we can learn from those eastern states that have been holding field meets with profit, what they are doing. Let Mr. Kildow bring out this point.

THE ADVANTAGE OF FIELD MEETINGS.

Mr. A. L. Kildow, Putnam, Ill.

Mr. Kildow—I think the Secretary made a mistake in his program when he selected me to talk on that topic; I did not know it until yesterday morning; I did not know that I was on for anything.

I was somewhat surprised; when I first got a letter from the Secretary I told him I couldn't come; I got his second letter, and I thought I could come. I would like to hear some one else talk on this subject. I am a poor talker. It is not in my line, and I will make only a few remarks.

In regard to these field meets. I think it is one branch of bee-keeping that is very important; if anything it is better than these meetings in the winter time, although these meetings are good, but in our summer meetings we bring out things that we cannot do here; for instance: We can have practical manipulation of the bee hives and show the different workings of the inside of a colony of bees that you do not get here and that a good many do not know much about, especially the novice. Of course the practical bee-keeper knows all about this.

We get the social feature in the bee yard that we do not get here.

Now, for instance, our meeting at Hamilton: I think any one who went up to that meeting would say that it paid them well to go clear across the state to be there.

If you have seen a picture of the Wisconsin meeting you will get some idea of what our meeting was in Hamilton. There were about 100 of us, or more, in the picture.

To hear the different ones talk, it was worth the time it took to go there.

And our meetings at Rockford! They have been good. We have a little gathering there every year, and those meetings are well worth the bee-keepers' time who is in reach of there, to go.

We have been having meetings in eastern Illinois; for some reason this fall, we failed to have one there.

We have been having good meetings there; and I want to say if there is any neighborhood in the state who will get up enough interest to furnish a place of meeting—some bee yard,

somewhere, the State Association will furnish good speakers and pay the expense of that trip, if they will get up enough enthusiasm and interest to have such a meeting, and find the place to hold the meeting.

I cannot say more than this. I cannot talk when I get up; when I am down home I can think of a hundred things to say, but here I am no good.

President France—I want to say one thing in behalf of these field meetings. Do not forget that they are for the ladies as well as the gentlemen, and that you take along the picnic lunch.

Now I realize, as perhaps some of you may not, that a field picnic meeting, where there would be more than there are here, coming by surprise upon some bee-keeper, and no provision for dinner—what this would mean.

If you please, imagine that this crowd would, next summer on the 20th of June, pop up at your home for a field meet, and your Mrs., not knowing they were coming, and no preparation for dinner! Worst of all, to impose upon that good housewife with our coming there as boarders. Don't do it! Have field meetings, but have a picnic lunch brought with it.

We had a convention of over eighty that continued three days in succession, but my neighbors turned in and there was lots of baking being done, but it meant a lot of extra work.

It is more easy for each of us to bring our own share and the picnic feature of it is enjoyable.

Why, in New York, they figure that it is worth more than the winter meetings.

So far as furnishing the place of meeting: I believe there are lots of places that want field meetings in this state. I know there are a good many in my state.

I am going to ask an expression here —who would like the field meeting in your neighborhood?

Mr. Kildow—The President of the Illinois State Bee-Keepers' Association is figuring on having five field meets throughout the state this summer, if they possibly can.

We are going to have this tri-state meeting of Missouri, Iowa and Illinois, and I think it will be in the northern or northwest corner of the state.

We want one on Fox River, somewhere near Aurora.

Mr. Damon—I want to say for Fox River: We are going to do our best to have one this coming summer.

Mr. Kildow—We want another one close to Chicago. We have enough bee-keepers here to furnish members enough to beat anything in the state if they will come out—if we can get a bee-keepers' yard where we will have a little room.

The Rockford Convention is a yearly concern—the day is not set—that is left with the committee.

If they can get these field meets throughout the state it will boost bee-keeping and put it on a pretty high plane.

Mr. Brunner—If there are members living in Chicago and vicinity who are interested in field meets and who want a field meeting there undoubtedly are others.

I would like to have it settled that we are going to have a field meet in Chicago, either under the auspices of this Association or independently.

I would suggest that now is a good time to begin to plan for that. If we want such a committee, let us have a committee of three or five or whatever is necessary, appointed now to make arrangements to plan for that field meet.

There is more of an opportunity for field meetings here in Chicago than anywhere in the state; we have such transportation facilities that we can get anywhere; any of us who are keeping bees 50 miles from Chicago can get to field meets here in Chicago conveniently.

I would like to see it arranged for right now, and have a committee appointed who will give a little time to look into it, to get notices to people likely to be interested, and all other work necessary in connection with it.

Mr. Kildow—It would be a great help to the State Association if these meets were planned ahead, so that it will give them time to pick out men to go there; it would be of great advantage to the State Association.

Mr. Kildow—They have money to spend for this; all we want is the place.

Mr. Bruner—What time would such meetings best be held so far as you know, here in Chicago or vicinity?

Mr. Kildow—I don't know as it

makes any difference. There is no meeting set—any day.

Mr. Bruner—What is the custom? We don't know anything about field meetings; what is the custom—what is the general rule, June or July?

Mr. Kildow—The best time, anywhere from June to as late as the middle of September.

Mr. France—Before or after your honey harvest?

Mr. Kildow—July and August seems to be the best time.

Mr. Bruner—Most of these bee-keepers in Chicago are situated so that they could attend a field meeting almost any Saturday afternoon during the summer, I take it; Saturday would be the best day in Chicago.

Mr. Chairman, I move the Chair be empowered to appoint such a committee to make those arrangements. A committee of five.

Motion seconded and carried.

President France—I believe, Mr. Secretary, it would be well to appoint Mr. Kildow at the head of that; he can confer with the other committees, to get outside men.

President France—I will appoint: Mr. Kildow, Mr. Wheeler, Mr. Bruner, Mr. Bull, Mr. Smith.

President France—One part of that committee ought to be for publicity, to look after the advertising in your various daily papers as well as notices to individual members—whom can we get on that?

Please bear in mind, the naming of a committee is only the beginning; a committee cannot do it all; they will do their best to make this field meet a success, but in order to make it a success you must not only bring the lunch, but come with a spirit of friendliness, and try to get some neighbor bee-keeper to come along with you.

Mr. Wheeler—I think that our President ought to be on that committee. He has done so fine this time, I don't believe we can do without him on that committee, Mr. France.

Mr. Smith—I think it is generally understood that the President is a member of all committees, ex-officio.

Mr. Kildow—I think you better let me off that committee and have some one from Chicago. I think you ought to have a committee of men close around Chicago. I do not know the people around here nor places.

I will do all I can to help them out. Your members of that committee ought to be in and close around Chicago; I think you had better let me off and put some one else in my place.

President France—The only reason I put you on that committeee—this committee wants to work in conjunction with the others; you are in a place to know the conditions better than any one.

President France—We have on our program—"Consideration of Display of Honey, and Cooking and Baking with Honey."

If any one has something good to eat—show it.

My wife put in the better part of a day getting ready for this; then I came off without it.

We appreciate the fact that honey is worth in many ways the value of honey in baking and candies, which has not been generally known.

It is time we educate the consumer and sell our honey faster. May I say that one of the things that has helped to sell my honey product has been to furnish to each new customer one of those little booklets giving recipes for the use of honey in cooking.

Then there is the follow-up system; after a person has had that honey for a short time, say to them—have you tried any of those recipes? How do you like Bakings No..... ....., and Candies No .....? We, at home, think they are pretty good. If you have not tried them, do so. Say, there is one which my wife says is so nice; just add a little more flour in the making and see if you don't like that one.

Follow this up; get them to use it.

The first thing you know they are out of honey, and they will tell you, "I want a five-gallon can."

As an illustration of how to use those books—may I give one other: There was a fund put in my hands for advertising the use of honey; I came here to your city and made a display of honey at the Pure Food Show which costs, by far, too much, our floor space in the Coliseum costs us $350 to begin with, and because of the good generous hearts of some of your best bee-keepers, especially Mr. Wheeler, we made a display costing us $800; and all we got was a piece of paper—a

diploma; there was left $600 unused of that fund. How could we use it to the best advantage to get people to use more honey?

I was three years holding that fund before I decided how I was going to use the balance of that $600 to do somebody some good.

I was requested to use it for another display of honey in Chicago; I could not see that the display that we made sold any honey. I was censured for not using it. Finally I took it for these honey booklets. I figured that, if they had helped me in my sales, why not buy $600 worth of those booklets and give them to the producers.

I submitted the proposition to the publishers, to learn what they would furnish me those books for, until I got the price down very low, and I bought nearly $600 worth of them, to be given to bee-keepers if they would pay the postage on those books from me to them.

Another thing: Some of us were anxious to get our portion and have the books distributed right—so that when I made that offer I asked, when they applied for books, that they give me the number of colonies of bees they had.

One of the first letters I got was from a business firm from this city—with $25.00 included, and they didn't own a swarm of bees. They wanted $25.00 worth of those books.

In a way it would look wrong and unjust to send a man $25.00 worth of those beeks when I was not going to allow anyone to have very many of them.

I at first thought, he cannot have any—wherein will it do good?

But—he is selling more honey than any producer I know of; I guess he had better have part of them, so I sent him a few books, and the rest of his money back; I divided the rest out among the bee-keepers. To get down to an individual case: A man in Iowa received twenty-five copies. He wrote me and said: "I have those books—and I have all my honey; I cannot sell it."

"Oh," I said, "Mr. Strong, you put your light under a bushel. Do your neighbors know you have those books? You have not done your part."

'Say, at the suggestion of my better half, I am going to say something. She says, let your family take on page so and so; and on page so and so, and try that recipe in their baking. Try recipe on page so and so in putting up fruits and preserves with honey; try making candies sweetened with honey. Let your wife make those and invite in your neighbors and have a social evening, and, if you don't do anything else, you will have a bigger social neighborhood—and feed them honey and baking made with honey."

The result? Seven 5-gallon cans of honey went out of that house and a lot of small packages. But the best of all. He had the Sunday School superintendent there, and the next week was Christmas week. The superintendent of the Sunday School asked: "What will you charge to cut a lot of honey up in square tubes—one for everybody at the Christmas tree?" And this he did and he was cute enough to put Mr. Strong's name with it. He fed the whole Sunday School—and others said: "We want some of that," and he sold out his honey and wrote to me—"where can I buy some honey?" That was sold out, until he bought 8,000 pounds besides his own product.

When we educate the people that honey is worth something, and demonstrate it by producing the actual goods, then they will want some.

Just along that line—I want to get home, if you please, take the afternoon train tomorrow and be in time for a meeting of the agriculturists, where France will furnish a bushel of apples; I will gladly donate them because I expect to sell about 20 bushels afterwards.

Mr. Miller—I appreciate the talk that the President has made about educating the people to eat honey, but it seems to me that, while these individual cases sell lots of honey, there are not enough of them.

It seems to me that the most effective way to do that is to commence at the head of the educational department and work down through all the people.

I don't believe that my paper was clear enough about that.

I am going to tell you what we are going to do:

There are a thousand school teachers that teach cooking in all its departments; they teach the relative food values of all of these articles that go into the high schools and graded schools of the state. Each one

of those schools has a class of anywhere from six to forty young ladies who are just beginning to think about cooking.

Now, all these teachers have a course of study laid out for them by the State Superintendent of Public Instruction and State Superintendent of Domestic Science, and in that course of studies is laid down what they should teach that year, and they are very friendly to teaching something about honey.

A gentleman said this afternoon that people would eat what tasted good, but it is true, too, they eat things that don't taste very good.

I would like to see a man who says that breakfast food tastes good, but they eat it. I would like to see breakfast food eaten without cream and sugar. There are a whole string of breakfast foods, about forty different kinds, and there are some families who make a breakfast of it.

Now, then, why do they eat breakfast foods? Because they are health foods; then why not eat honey because it is a health food, and it is a good deal better than breakfast foods.

These schools also will teach the use of honey in cooking if you give them recipes and instructions.

The Superintendent of Domestic Science told me she did not know of any honey recipes being presented to them, but she did know of hundreds of other products, for instance: corn syrups.

If school teachers will teach the uses of corn syrup, they will teach the relative value of honey. The beauty of that is it costs them practically nothing. It is done by the state for the benefit of the citizens of the state, and the instructor is paid by the state.

We do not have to pay for expensive educators and demonstrators; these teachers will do those things.

Now, our Association sent greetings to this Association by Dr. Phillips; I don't know whether he has read them or not.

This Association is asked to cooperate with Illinois, Michigan, and Indiana by appointing committees to take this matter up with the state authorities and start the thing going in this state and vicinity and have the use of honey placed on the course of instruction for the Domestic Science instructors, and then let these committees co-operate with one another in the different states.

Next year Indiana will take up the teaching of the use of honey in her schools; and, if you will do the same thing, and Michigan will. Prof. Yaeger tells me that Minnesota has appointed him. He delivers one lecture a week before some body of teachers right along that line, and it seems to me like that would be one of the best propositions and best spent effort that can be made.

Mr. Smith—I believe we ought to correct the impression that was made, if there are people who do not know all about honey, here.

As brother Williams said that a gentleman said this afternoon, people ate other things because they liked them; because they liked the taste.

I do not know of a more palatable food than honey, yet we are leaving the impression that it compares with breakfast foods and other things of that kind.

Mr. Kindig—If it pleases the Association, I would like to present a communication from the Indiana Bee-Keepers' Association:

"Indianapolis, Dec. 11, 1915.

"To the Chicago-Northwestern Bee-Keepers' Association—Greeting:

"The Indiana Bee-Keepers' Association in session assembled sends its warmest greeting, and wishes for future success to the Chicago-Northwestern Bee-Keepers' Association, and invites their co-operation in a general effort to have the food value of honey and its value in cooking taught in the Domestic Science Departments of the public schools of the various states."

Mr. Kindig—In that connection, I do not want to appear to do an advertising stunt; that is not my intention at all.

But right along this line of cooking and using honey in food—in cooking in particular. The idea was conceived of perfecting an organization which would look to the advertising of honey and the furtherance of its uses, leaving out the question of honey production and those kindred subjects that ordinarily come before a Bee-Keepers' Association.

This idea has crystallized itself in the organization in Indianapolis last week of what is called the United

Honey Producers of America. That object is, as stated, to place these matters before the State Departments of Instruction or other places where this information may be properly placed, with the idea of issuing bulletins which these departments request, inasmuch as they have no definite information along these lines.

This has been referred to incidentally several times today, and I could but wonder whether many people knew what was being talked about when it was referred to.

I am making these remarks in explanation of some of those things that are being said.

I am intimately connected with that Association. I would not for a second lend my influence or support to an organization that I didn't believe had for the real purpose of its conception, the benefit of every bee-keeper in this country.

I believe the time is here for an organization along those particular lines, because in an ordinary Bee-Keepers' Association the scope is well exemplified by our program of today, is to diversify. I believe the organization along these particular lines has a wider scope. I believe it is something the larger bee-keepers in particular need and have needed for a long time.

It is my hope that this organization may prove to be that which is most desired by so many.

President France—Shall we have the Question Box, or what is your pleasure?

Mr. Bull—Let's have a few questions to wake us up and get things going well.

Mr. Miller—I would like to ask a question: When you put that queen excluder in between the bottom hive and the next one, as I understand it you give them two hive bodies early in the season. When do you separate the two?

President France—I never separate the two; I raise the two up and put the other below and put the excluder there, putting all but one above the excluder. The queen is below at the time I make this transfer; she is put down below the wood and wire excluder.

Just a word in behalf of that wood and wire excluder: the more wires you can get and the less wood you have, the better.

If it were not for the cost, I would like to have that whole excluder wire, with that cross bar to hold it the proper distance.

The more wires there are the quicker the bees go down and out through them the better, and the more hindrance we have through that, the less profits the bees make; and if you please, come back to the old perforated zinc, it is the best thing I ever heard of to create swarming; it will create swarming quicker than anything I ever found in manipulating a hive of bees.

Now with the new ones, they will go up so quickly, they hardly realize there is anything in the way, and your honey goes above leaving the queen below.

A member—About what time in the year do you put that excluder in?

President France—About the time the first clover is beginning to yield a little honey.

Mr. Wheeler—Do you get wire the right size to permit the workers to go through without the queen?

Mr. President—As made by our supply men; the more wires you can get, the better; make seven wires, a little strip of wood, then seven more wires, with cross bars to hold those wires the proper distance apart.

The old one was three wires, then a strip of wood, then three wires with a strip of wood; I let those go to the neighbors.

I wish I could get those that are all wire; they are still better.

Mr. Kildow—When you put that excluder between and brood above and the queen in one comb below, do you have to watch queen cells?

President France—Not over ten days after this transfer, go through one and remove the queen cells.

With my yards away from home; they are all away from home (I gave as a wedding present 150 swarms and the use of my home apiary). I think we have had three swarms in the different yards this summer in that way of manipulating, and only going to them a few times.

We had an ideal year for rain, but not for honey. The flowers cannot yield very much when we have rain and cold weather.

If you will remove the cause for swarming, before the swarming fever has taken place, there ought not to be any swarming; if you wait until the queen cells are well developed and the

swarming impulse already pregnanted through the whole hive, I don't know as you can in any way eradicate it in that last hour.

Mr. Wheeler—Could you not set those two upper hive bodies off for a few days and on new bottom and let them destroy the queen cells?

President France—We could but we don't know whether it would be of any advantage to us; we want to do the work of the whole yard that day and go home.

Mr. Wheeler—Are you sure of finding the queen cells in those upper stories?

President France—That is why we had a swarm; two queen cells were skipped.

Mr. Coppin—You put the queen in the lower chamber?

President France—Yes.

Mr. Coppin—Does that not cause the bees to build queen cells above?

President France—Generally; a big colony of bees; not as quick if you have wood and wire as they would if you have zinc.

Mr. Coppin—I have had them, especially with wood, we had queen excluder a number of years ago of wood, I have had them stop it up entirely.

Mr. Miller—My experience this past season has been different than formerly; the bees do not do the same thing one year that they do the next. I found the queen below one frame of brood the early part of June; it was only three or four weeks before they were ready to swarm again.

I fixed them up in July and in the latter part of August they swarmed again.

I thought I had them fixed so they would not swarm the rest of the season; they fooled me.

Mr. Wheeler—Probably had the old queen.

Mr. Kindig—I would like to ask you a question about producing extracted honey.

Do you find it of any particular advantage, and worth the extra work, to try to keep your extracted combs free from ever having brood raised in them?

Just keep them for nothing but extracted? Never let the queen in?

President France—I have often thought I wished I could but I don't.

Mr. Kindig—Do you think it is worth while for a real practical bee-keeper to try it?

President France—We have one man in our state who has taken, I think, as many, if not more, first premiums at our State Fair, who is a man of careful manipulation, who has hundreds of combs that have never raised any brood in them.

They look better than mine which have had some brood in, but I have just as good honey, but I do think that if we take old combs, or combs that have been used repeatedly over and over for brood, you will not get as ideal choice honey as combs that have never had brood in at all, and, by raising one or two sets of brood in them, that cocoon lining will strengthen that comb by which it will stand rough usage in the extractor.

Mr. Wheeler—I have six or eight hundred supers made out of the old Heddin comb honey super 4 1-4 inches deep inside the frame. They are the nicest thing I ever used for extracting honey. I put one on and raise it up and put another under it and keep building it up. It makes a very nice comb to get extracted honey in.

I would not use a wide frame at all because you get more or less brood unless you use the extractor. A queen seems to like a frame 8 inches deep for breeding; a four or five inch frame they very seldom brood in.

Mr. Bull—In my extracting combs I never have much brood; use the 8 inch frame and 10 inch super over excluders. I prefer those combs to those that have brood in; I don't have any trouble with uncapping. I have a spacing arrangement—as fast as they come out of the extractor I put them in the super; I nail a cleat across the frames on either end; a spacer 3-4 inch.

I never touch those frames again until they are filled with honey; never take them out of the supers.

I load those supers on the truck and take them out and put them on, and when they are full I take them back in again and never take the frame out.

Mr. Wheeler—I am in the same boat with Mr. Bull; I use the excluder and there is no chance for brood above.

President France—Mr. Bull, in regard to that spacing on the sides of

the frame, you have these strips nailed that hold it a proper distance?

Mr. Bull—My spacing is on top. Nail two strips across the top of your frame, brood frames and extracting frames the same. In ordinary handling those frames will never budge; I use strips of strong enough wood.

I take those strips off at once without pulling any nails; it is tough wood, it won't break.

I can extract honey as fast as a boy can take those off.

President France—In the moving of your bees to and from the yards, do you put something over the entrance to keep your bees from flying?

Mr. Bull—No, sir, I leave my entrance wide open; I prefer to move to the outyard the last week in April, the fewest bees and less honey in your hive just before a new hatch of bees comes in. Three weeks after you take your bees from the cellar. Then most of your old bees have died off and the young bees have not hatched; there are very few bees in the way.

I have my bottom boards fastened to the hive; I use 5-penny nails on each side and nail that cover down on the hive; use a little smoke at the entrance; get on the truck; crank up, and away I go. If cool enough weather, if around 40 degrees, I move in daylight; the same way in moving the bees home in the fall in November, 40 degrees F.; go to your yard, nail on the bottom boards and cover, smoke a little bit at the entrance, put them on your truck—and as long as you keep moving those bees will not go out.

You can drive where you want to go and set them off.

Mr. Wheeler—He must have quieter bees than I have; I tried that and I had all sorts of experiences. Neighbors along the road on each side got stung for days afterwards. I cannot keep them in the hives that way—and a stray bee that has gotten out of the hive and lost along the road is the ugliest critter.

Mr. Bull—If you use not enough smoke, the bees will go out; and if you use too much they will go out; you have to use it just right.

Mr. Miller—I use a little cotton and it saves any of the bees going out. I prefer to move in the daytime.

President France—You close the entrance?

Mr. Miller—I put a little cotton in the entrance. I buy a roll of cotton for ten cents, take a hive tool and push in a little cotton I usually close them up before moving.

President France—Do you use that cotton dry or damp?

Mr. Miller—Dry; I have moved them like Mr. Bull does, without anything, but sometimes, if strong colonies, they will come out. It takes about an hour to move fifteen miles.

President France — In California, where the weather is quite warm, they move there three and sometimes four times in the season, for change of pasture, in the valleys, up in the flats, and have a few hills, and back again; it is a warm climate; they have rough roads, and have to be shut up a considerable length of time, and they have to put something at the entrance so the bees can't get out; they use a screen, leaving plenty of air space. (Illustrating.)

We find that it is an excellent way to move bees; you can slip that on there when there are no bees in or out of the entrance, and we use three-penny nails.

Although we may be a long time on the road, moving from one outyard to another, sometimes it has been done later than Mr. Bull does; we give them no chance to leave and no chance for smothering.

Mr. Bull—I don't want to move any bees in hot weather. I use a two-story hive and leave the super on and moving screen on top of that and close my entrance tight and get my ventilation from the top; if the ventilation is not enough and they are on the road any length of time, I use water.

The entrance block I use is different from anything I have seen; I guess it is not complicated enough for supply dealers. It is a board or block 15½ inches long and thickness of entrance ⅞ inch one way and 15-16 inch the other. Slip that in the hive and slip the hive head on your bottom board ⅜ inch; in that way you will have enough projection to hold that cleat in.

Mr. Wheeler—I have a way of my own of shutting my bees in. I use a 4-inch rim with a screen under it. When I set them in the wagon or automobile, I have a strip ½ inch thick under the screen. I cover everything over with a thin cloth; I don't allow a bee to escape from the time I leave

home until I get to where I am going. That is my system; summer or winter; I move all times of the year.

Mr. Bull—I never use a cloth and don't want to. I want something pretty solid; I use a screen made of double lath, nailed on with either four- or five-penny nails—four nails.

Mr. Bruner—Would you undertake to move more than four or five miles without the entrance being closed, and how long would it be safe to stop under ordinary conditions at 40 degrees temperature?

Mr. Bull—Leave your motor running; stop as long as you please.

I would not want to even start the machine without going around and smoking these colonies, not for one or two minutes, and start again.

When you get into your yard, ready to unload, you have to handle those hives carefully before you get through.

I would not attempt, with open entrances, to ever stop my motor from the time I start until the bees are ready to unload.

Mr. Wheeler—What if your motor stops?

Mr. Bull—You will have to smoke them.

Mr. Coppin—My idea is that it is the best way to fasten up the entrance with screen wire like you were representing there. When the weather is hot, a screen over the top as well. We are liable to get accidents on the road and the bees would be let out if the entrances were left open.

A number of times by the time I have got away on the road I have found bees enough out without leaving any out.

Question: What is a first class up-to-date bee-keeper?

Mr. Kildow—One who makes a success of it.

Mr. Wheeler—One who can keep bees without doing any work.

Question: What are the advantages and disadvantages of the Pearce system of bee-keeping?

President France—Has there any any one here used it?

Mr. Kildow—That means queen rearing, does it not?

Mr. Kindig—I never tried it and I am not going to either. I find it costs enough to buy equipment for ordinary bee-keeping equipment. If you are going to keep two or three hundred colonies of bees, what an outlay you would have to have, all those buildings, all that would have to be established in connection with this Pearce system of bee-keeping.

It seems to me that any one in business for a financial profit—the fact you have got to build a cow barn in order to hold them, looks to me as though that would discount it on the face of it.

Mr. Bull—In regard to that Pearce system of bee-keeping: That was discussed pretty well at the Michigan Convention. Nobody had much to say for it except the inventor of it.

President France—I don't know whether it is possible to bring up more subjects or not, when we are tired.

To make tomorrow a successful meeting, and in order to be home to another meeting at the last hour tomorrow night, my only show will be to leave on the four o'clock train, getting home at 10:30, pretty late hour to go into an assembled body.

I want to make tomorrow's meeting, if you please, a hummer; something this is worth our while. We have fired at random today; some thoughts I hope will land where they will prove worth something to us.

Various subjects have been taken up. My crank idea this year has been to advocate better brood—young queens; if that is worth your while to think of that subject later on, all right.

This idea of painting comb foundation. If you have not tried it, do so.

If you have not tried the wire screen bee escape, do so.

When a man like Mr. Holterman will lay aside all the others—in its favor; and others say it is worth three of the old ones—it is worth paying attention to.

Some of these new ideas may not meet with our approval, but let us not go back on them if they will improve our conditions.

Prove them out in your locality and surrounding conditions; our pasture, our forage, the condition surrounding our individual yards, is what we must be guided by.

I hope that no one would undertake to imitate my methods until they have proven that those things were practical in their own home locality.

I believe it would be better that we hold these Questions, and make tomorrow's meeting begin early. I am one of those unfortunate fellows who was brought up on a farm and get up early. Let us stand adjourned, but come early in the morning.

MORNING SESSION.

December 18th, 9:30 a. m.

President France—The business portion of our meeting need take but little time this morning. If our Secretary is ready with his report we will hear it at this time.

Mr. Bruner:

Received from the former Secretary ....$ 5.36
Mr. Charles Becker, for stamps and other expenses that the state pays 17.75
Dues from members to date.... 42.50
(That includes those received up to this moment.)

Total receipts $65.61

Of which $3.00 have been transmitted to Mr. Stone for dues in the National; the balance still in my possession.

There has been nothing paid out; I have the bills:

For stamps $21.01
For printing $23.50

President France—Just a word in explanation:. How much dues per member are you taking?

Mr. Bruner—$1,50, of which I understand $1,00 goes to the State and $.50 is retained by the Chicago-Northwestern.

President France—No dues for the National?

Mr. Bruner—This is as I understand it.

Mr. Kannenberg—We have not decided what we are going to do about joining the National or State.

Mr. Bruner—It is for the members to say what they are going to do with the dues that have been paid in; I have the dues, $1.50.

President France—These series of meetings—State Conventions: There have been within the last two weeks Conventions in Kansas, Nebraska, Iowa, Minnesota, Wisconsin and the Illinois State and the Michigan; they have all withdrawn from membership in the National.

They do not seem to be much in sympathy with continuing membership. We are really a part of the Illinois State, yet we have been an independent branch of the National, sending delegates from here direct to the last National meeting.

Mr. Wheeler—My dues run out in February for the National, so I am really a member of the National yet, I suppose.

President France—So long as you are paid up to—

President France—The report as read will be turned over to the Auditing Committee, who can look it over and report before the close of the meeting.

Mr. Kannenberg—Mr. Coppin—Mr. Wheeler—Auditing Committee.

President France—A letter from Doctor Miller, which has come in, includes $1.50 to pay his dues—so you see he is not a National member under that condition; $1.00 to the State and 50 cents to the Chicago-Northwestern.

He says: "Until today I had not given up the hope that I might be with you. I am just getting over three weeks' siege of the grippe and I don't dare to go. Greetings to the crowd. How I would like to see you all.

C. C. MILLER."

President France—I would suggest that our Resolution Committee remember Dr. C. C. Miller in their report. Also the Dadants. They would have been here but there is sickness in their family and they cannot get away.

One other thing that has come to us that perhaps it would be well at this time to consider:

When better living—more economic living—is being given consideration, and the manufacturers of our different food products are taking advantage of these conditions; and are seeing that their line of food is among those which are considered by our economic instructors: I don't think there has been any effort made to bring to their view the fact that honey should come into that list.

Syrups of different types—breakfast foods and other articles of consumption are being pushed and attention to them is being brought to bear on these economic instructors.

I believe the time is ripe when honey should have its place among and in

that class of foods—and there is no better way to bring this to bear that I know of, as an Association, than to have a committee.

I believe that, as long as Indiana has taken the pains to pass these resolutions and have a committee of three from Indiana, the Chicago-Northwestern should appoint a committee to operate with them, and that this is our duty.

Now I would like expressions from any one here in regard to this matter.

Mr. Smith—It seems to me that that is one of the best things that has been advocated since I have been attending these meetings.

There is a chance to see some effective advertising—advertising that will last for almost all time to come, and advertising that will mean something to the consumer as well as to the purchaser.

We are benefiting everybody; we are benefiting the teacher by giving her a broader knowledge of food products. We are benefiting the person who eats the product so I think whatever steps are necessary for this Association to take should be taken.

Mr. Stewart—What are you going to do without money to do all that? You want a committee to work for nothing? They won't work very well unless you pay them for their time and their outlays; you have to have money to do it or it won't work very well.

Mr. Kannenberg—If the committee is appointed to see these teachers in the high schools and in those schools where the teaching is taught I think the committee don't need much printing and such things as that as long as they are acquainted with the high school teachers and those who do the teaching.

Mr. Smith—You don't need to know a single high school teacher in the city of Chicago; all you have to do is to reach the man, the Superintendent, and lay the facts before him, and it will go to the teachers. If we can convince that man that we are all right, he will soon convince his employees.

It requires but ten cents carfare and a half hour's time to go down and see the Superintendent.

This Association should put in the hands of such a committee as they appoint, reliable information that is printed on the subject, so that they can take it home any evening and get it together in readable and presentable form; get an audience with Mr. Shoop of ten or fifteen minutes and present their proposition to him, and the work is done.

Mr. Bruner—So far as this concerns the schools of the city of Chicago, there is a supervisor of Household Arts who happens to be a lady. The Board of Education have practically nothing to say as to what is done in these different courses of this sort except to O. K. what is recommended to them. The Supervisor of Household Arts has nothing to say, except to O. K. or turn down what is recommended to her.

That whole thing is in charge primarily of a committee of teachers.

It is that committee that must be reached. Not the Supervisor of Household Arts, the Board of Education, or the Superintendent, but that committee is the prime mover of anything that has to do with the changing of courses as it is laid out in the schools.

We have to get to that committee—to the Supervisor, and then to the Board, but primarily the essential thing is the committee that has charge of what shall be done in this course.

So much have I been informed by the teachers in the machine, and, believe me, the machine of the Board of Education of Chicago is a wonderful organization.

We have, in this city, about 350 public schools—in the city of Chicago. In each of these schools there is anywhere from, say, two teachers to three or four dozen; there are thousands of teachers in the city of Chicago; they spend millions of dollars every year; perhaps millions of dollars every month, I think they do. It is a wonderfully big organization; and it has to be systematized and specialized, and this committee has to be seen, that will handle the getting of this on the course, and I believe that is something aside from the school board of the state. The Chicago School Board is so large it does business practically for itself.

One to take care of the city of Chicago and one to take care of the state as a whole. I am not sure of that.

Mr. Smith—Of course they are two

entirely separate bodies, the state schools and the city of Chicago, but the city schools of Chicago are controlled by one man. You get into politics and you go still back of Mr. Shoop to find the controlling force. You can waste weeks, working on committees where you can accomplish, in ten minutes, your purpose, if you can reach the man who controls that committee.

If the man who appointed that committee will give you a letter of introduction, or will call the principal member of that committee and say: "Give this committee an interview," it is all done; that is the way politics are worked.

Mr. Bruner—That is correct, but we have to get to that committee.

Mr. Kannanberg—That is only meant for Chicago. In the suburbs they are not managed by the Chicago Superintendent; they have their own Superintendent and teachers for their cooking and such things as that.

When the committee is appointed, there should be one for here (Chicago) and one for the suburbs; the suburbs should be taken care of. It is more advisable to have the suburbs coming in than Chicago; both should be in. I do not think it would take so much effort in the suburb to reach the head as in Chicago, because it is more politics in Chicago than in the suburbs.

President France—I will ask our Secretary, Mr. Bruner—Mr. Miller—Mr. Smith to act on that committee. Then, to go out in the suburbs, for that side of it, Mr. Bull—Mr. Coppin.

As I understand, the committee from Indiana are ready to confer with this committee as to what action to take; and I think it should be wise for these two committees, before leaving, to cooperate and get some system by which you can put this thing into movement.

Mr. Miller—I would, very much, like to have you put some one else on that committee in my place, because it would be impossible for me to take care of that work. There are others who live in the city. I am not personally acquainted with conditions in the city; others, who live here, can do more and give more time.

President France—The reason I selected you was for outside of the city element. We are trying to cover more than just Chicago, if possible.

President France—The next number on our program: The report of the Delegate of the last National Convention—

By the way, let us make that Question Box a hummer!

This other subject: How to make our Association more valuable to its members. I don't know but I am going to impose a little:

When we take a subject of this nature, and reflect back to what our Chicago-Northwestern Conventions have been—what they are—and what they possibly are going to be—may I say, it looks like there is a decline. That real enthusiasm and house rousing, full of good spirit and interest that was shown in the former Conventions. It is not the fault of the few, who are here, but it is the man who does not come.

I really feel lonesome in that many of the old faces I used to meet year after year, though age and fatality have taken some away, will never be with us—but the young and coming generations are not here. The old heads are few indeed whom I used to meet when I came to the first meetings in Chicago. Now it is up to us—how can we make this Association of more value to its members?

Mr. Baxter has just come in, and I believe in putting every one to work. Mr. Baxter, can you tell us—how can we be of more value to one another?

Mr. Baxter—I don't know how we can; I surely would like to be with you more often than I am, but circumstances prevent it.

I am all alone at home. I just happened to get here today, although I got up at four o'clock this morning to get my train, which was late.

Mr. Dadant is detained at home on account of illness in his home. The Dadants asked me to give their regards to this Convention.

I do not understand why it is that bee-keepers don't attend these meetings more often, because it is to their advantage and to their interest. These meetings are held for their special benefit, and I do not care how much they know or think they know they cannot mingle with other bee-keepers or with horticulturists without gaining some knowledge of some kind.

It is to their interest to attend these meetings, but somehow they don't seem to realize it. Some say, "I know all about this and don't have to attend the Bee-Keepers' Conventions to

learn"—those people are self-satisfied and the result is, they never make good; that is the long and the short of it.

Mr. Stewart—I think one reason is, because you do not make it interesting to the rank and file of bee-keepers. It is more interesting to somebody else; the rank and file do not come.

Mr. Miller—How would you do it?

Mr. Stewart—I don't know.

Mr. Bruner—I do not know anything about Association work or about Association work in particular, but I did find that I was made Secretary of this Association when I was not here; I did not know about it until the meeting was over. I found that we had about twenty men that were paying dues into the Chicago-Northwestern Association, and a list of 150 men that, at one time or another, paid dues, about half of whom had been deceased or had moved to Colorado or Michigan or somewhere else.

That is the basis that I found when I got time to do a little work here; about twenty men, who always came and could always be depended upon, and the rest, about half of them deceased or gone to other parts of the country.

I did not get started at this; I have two businesses to take care of. I got a list of men I presume is fairly accurate, or was ten or fifteen years ago, of bee-keepers of northern Illinois, northern Indiana and southern Wisconsin, who ought to be interested in this movement.

I sent part of those men notices of this meeting too late; I could not get to them earlier. I had a girl working with me; we worked pretty faithfully getting out notices and putting up copy for the printer about three weeks.

What is the result? Mr. Stewart is right; it is not made interesting enough for these men; how can we make it interesting, until we know the men?

I mailed to 1,000 bee-keepers, inquiries asking them to give me the names of bee-keepers in their district; I got one card out of that lot up until yesterday; yesterday I got a list of about forty men; some of them may be new names.

We have to have co-operation, gentlemen, and we cannot do anything as a Convention and as an Association, unless we get together and do something. No one man can handle this thing.

See if we cannot make this Chicago-Northwestern Association worth while. Chicago is a marketing center for all honey that cannot be sold at home. There is a field for work here for the Chicago-Northwestern such as no other Association has. Do we want to do that work?

It is not a question of how we can make the Association a benefit to ourselves. The biggest field for any Association in the country is ours, outside of the National.

Do we want to do anything; that is the question.

We can help each other and help ourselves, if we will only get at it and do it.

If we want to help locally the bee-keepers in this vicinity, let us have their names.

It is proposed that the Field Meets are going to help the members and those who ought to be members of this Association.

There are other things that ought to be done, the educational proposition is a good one.

The Chicago dailies are read all over this territory for 500 miles around Chicago. There is no nationality anywhere but what has a daily paper printed in Chicago besides the English papers.

Is anybody doing anything to keep honey before the public here, such as can be done without any cost? The newspapers and reporters are looking for news. Each paper has a page devoted to how to cook things—how to keep well; every little while an article could be slipped into any or all of these papers; there are brains enough in this room to write up those articles and get them to these papers every month, or to the press association They are looking for these things—and are putting the opportunity up to us.

An Aurora Association is just being formed; a local association of bee-keepers. I cannot imagine what they are forming an Association there for, unless it is because the Northwestern is not doing anything.

Mr. Williams—In the last two years I have had occasion to have extensive correspondence with bee-keepers over the United States. This condition has

been very forcibly brought home to my observation—lack of attendance in the association meetings in particular.

Now we will have to realize one thing. Conditions are changing—they are changing from the older conditions to the newer; the older bee-keepers and their policies and practices and ideals are dropping out of sight with the disappearance of the older bee-keepers, which is occurring now very rapidly, I am sorry to say.

The younger bee-keepers, who are to be responsible for the policies in the years to come, are mostly untried, and the old ideals do not appeal to them. I will tell you why: In the first place the older beekeeper can make a living They use bee-keeping as a side line to some extent; and the income was sufficient at that time from the bees to keep them comfortably and they did not require so much money to keep the family.

At the present time the income required is larger, and it seems to me it is lack of constructive work that will appeal to these younger bee-keepers—I believe, if some constructive lines of work are taken up, it would appeal to these younger bee-keepers.

I have analyzed the matter pretty thoroughly; I have thousands of letters from bee-keepers all over the United States.

I think it is the change in the conditions that is making the attendance slim and the lack of constructive policies that is keeping the younger people from taking active part; I think that is the solution.

Mr. Damon—One reason for the lack of interest in the Association is because we meet only once a year.

I am a member of a new Association —the Fox River Bee-Keepers' Association; we have fifty people in the vicinity of Aurora who are keeping bees. Well, we have gotten a little dose of American foul brood, and, by the way, that is one of the things that brought us together—to fight it.

Another thing, we formed this with the idea of meeting once in two weeks or once a month, to keep up interest. I think, in the different small places around where a half dozen get together and form a social association of this sort, that it will keep up interest in the larger organizations.

I think it rests more with the individual. People say, "There is an official appointed to take care of that work"—where, if the individual would do more of this work and help them, I think it would help a good deal.

Mr. Baxter—I can't let the remarks of brother Williams go unchallenged. I have been attending these meetings for thirty-five years—I met here thirty-five years ago with the Northwestern in the fall of 1883, and the interest in that day was far greater than it was today, and a great many more members were here.

Those were the days of Heddin and Miller and a host of others.

Mr. Baldridge, I met him the first time then.

Those were live days. We made progress, too. I believe in progression; but I believe the methods of today are not much ahead of those days.

I made as much money thirty-five years ago, per colony, as I do today, and I have made some pretty good crops, I tell you.

Take the National: The National was a National in those days.

Under the management of Thomas G. Newman and our President, we had a different National than we have today.

If you want to build up your societies you want somebody at the head of them that will work, because it is lots of work—

Not only must those at the head work, but each and every member must work. We must try to spread the membership as much as possible.

In addition to having your annual winter meeting, it is necessary, I believe, to have summer meetings, to arouse enthusiasm and show the members what can be done.

Many of these bee-keepers, although they are bee-keepers, they don't know the possibilities of their vocation. I believe that is the only true way of getting at it.

Mr. Williams—I believe Mr. Baxter misunderstood me. I did not want to cast any reflections. We know the meetings of twenty or thirty years ago were better. The old bee-keepers were full of enthusiasm and had big meetings, and they deserve the credit. They were progressive, but, as I say, and it is a fact, not a theory, that the older bee-keepers are missing; a great many of them are not with us; and we miss them. We have not anybody to take their place, yet. Those who are with

us are all right, but they lack numbers, and our new bee-keepers, now, are not the men—we do not have the men we had thirty years ago.

Policies are changed; people are changing; times are changing, and, with this change, the younger people have not found themselves yet. When they find the right policies I believe they will take up progressive, constructive policies that will arouse enthusiasm and increase the attendance of these meetings.

The old bee-keepers: I take off my hat to them; to such men as Doctor Miller and all those people, and they have been faithful and all that, but time will conquer all of us eventually.

Mr. Burnett—It seems to me that, if the bee-keepers would make a sort of school of their bee yards and invite their neighbors to come in, and manipulate colonies for their interest, it would create much interest in bee-keeping.

At my yard, in Lake Geneva, when I was there, I had at least 100 every summer, who came to my yard to see me handle the bees, and they became very much interested, and, at times, I almost felt as though I would deplete my yards in selling colonies of bees, they were so interested in bee-keeping.

Such individuals would become members of an association like this very soon.

I think if bee-keepers generally would invite their neighbors in to see them work among their bees, it would create more interest all over the country in bee-keeping.

Mr. Stewart—35 years ago bee-keeping—bee-keepers were just learning and every man had something to tell and was glad to tell it; he was chock full of it. Today if he learns something about bee-keeping, he keeps it to himself; he doesn't tell anybody about his business any more.

Mr. Smith—I think that is because he has gotten old and selfish. Young blood I believe will be glad to impart the knowledge they can get, if we can get them here. I do not want to reflect on old men—the color of my beard will excuse me in anything I say.

I find one of the hardest things we have to do in life is to keep ourselves in sympathy with young people. I never come to one of these meetings but what I get enough information to pay me for a week's time, and I don't use it in the bee yard, either, I use it simply as a matter of knowledge.

Whenever we get a spare dollar we have to spend it somewhere. Some buy furniture, some buy a suit of clothes, while others put it into knowledge: we all have to put it somewhere, and eventually we have to leave it all; but the education I get at this meeting is worth more to me than ten times the cost.

I could name five or six points of information of scientific value, enough to pay me for a week's time.

All we need to do is to get this information out to the young bee-keepers and get them to come here, and then we will get more information—they are learning.

A boy twelve years old studying bee-keeping for a year may tell us something we do not know.

We have learned that we can can our food and thus keep it.

Men observed the bee doing that thing for 5,000 years before he had sense enough to understand what the little bee was doing.

I can remember when my grandmother didn't know anything about canning fruit, and, when they learned it, they learned it from the bee; they took the material the bee manufactured in order to can our food to keep it; beeswax and rosin, and sealed it up.

There are a number of other lessons that a twelve-year-old boy, if he is a student, might happen on to one of those discoveries.

It seems to me we might fill a room three times this size if a little advertising was done with the nature study class of the city of Chicago. Thousands of dollars are spent by nature study teachers. No field is so rich in nature study as the study of the bee.

Mr. Kindig—I would like to take issue with Mr. Stewart as to the bee-keeper not telling what he knows. I have run across lots of them, and I have yet to find the man who really knew who would not tell. The fellow that does not know, he hides the little light he has under a bushel, and he tells you that is his secret, but the man who really knows, if you go to him and ask him, he will tell you.

I don't think we ought to come to this meeting with pessimistic ideas; we come here to learn.

President France—The discussion on this subject is all well, but the question is—are we going to do anything? Are we going to make an effort to make the next Chicago-Northwestern reflect back on the good old days?

What can or will we do? It may be a long way to reach it, but I believe brother Whitney has one good suggestive idea—we should get our vicinity interested. Some one will say, hold on, you are going to get new bee-keepers. Somebody has to follow in line, and, although there is a good deal to be studied and weighed out on the proposition given us yesterday by Dr. Phillips, that future day when we will have more bee-keeping, more bees, more honey, and nearly double the price for the product—there is a whole lot between now and that condition.

And I assure you that Dr. Phillips has not made that statement but what he has thoroughly weighed it.

The fact now is that we are loading up people with honey; we are trying to get them to buy all they will take—to consume all they can; there is the danger point. We are liable in many cases to overload an individual stomach; nature rebels against taking an overload, and what is the result? Lack of taste for that article for some time to come.

We better do as Mr. Baldridge is doing; he will not allow a customer to have over a certain amount of honey, and the result is, those same customers are sticking year after year, and paying him the same price for comb or extracted honey; take your choice.

I have been offered, by wholesale men, to take my entire crop of honey for the same price as I sell to the consumer.

They are my customers, who will stay by me. It is convenient sometimes to unload your whole crop at one time, to the wholesale man; he is looking only at the business end of it; next year, if your price is low enough to suit him, he is your customer—but the consumer who gets in the habit of using a certain grade of honey, a certain grade of good goods, and he knows where he can get it, year after year—they are the market.

But to go back to this topic. What is this Association going to do, as an order or individual members, to bring it up in its meetings; to bring it to the point of actual business? If anyone has any method which they can suggest that would bring about this result, we would like to hear it.

Mr. Williams—I was to the Michigan Association this week.

They had 150 members there. I asked the Secretary how they managed to get that number. They were enthusiastic. They had a table the full length of the room. Doctor Phillips was there, and he, probably, can tell you more of the particulars than I.

I saw three medals—one gold, one silver, one bronze.

Those medals were given into the keeping of three people that brought the best exhibits there. I do not know exactly what the exhibits were, but the facts were, they are very nice exhibits and created a great deal of interest.

I understand that any one, who gets permanent possession of those medals, has to earn them for three years in succession.

But the idea is: It keeps them going after it, not only this year, but next year. One man suggested that each member bring a ton of honey.

At any rate, they had the assurance of a great big show of honey next year.

They propose to get out on some of the business places and have a public demonstration; have two nicely dressed ladies, and perform manipulation and show honey to the crowd that will be there, and make those plans for publicity.

They are expecting a big attendance next year. They are taking up something new that is progressive.

The women brought their cakes—the boys brought their wax—the men brought their honey—and I don't know all what they did not bring. It was not extensive in amount but quite extensive in variety of number of exhibits.

Doctor Phillips can tell you more about it than I.

Doctor Phillips—I would like to say something about that. It was a tremendously interesting innovation in Conventions.

The number of classes — fifteen. There were, I believe, two awards on each class, and then of those who got

the largest number of total awards, the three medals were given out, to remain in the custody of these bee-keepers for a period of one year.

This is the first time the medals were given, and really it had a remarkable effect on the members. They realized they wanted to get these medals, and they brought their exhibits, and excitement ran very high when they were given.

The object of the exhibit was primarily educational, educational to the bee-keepers themselves because the exhibits were very carefully judged by three excellent men—Mr. Holterman and Mr. Woodman of Grand Rapids, and another.

The bee-keeper could see from the awards how he ought to fix up his honey for exhibition purposes and for grading purposes, in order to put it into the highest class.

I don't know how many men went away from the Michigan meeting determined to get that gold medal next year.

The exhibits were arranged primarily for educational purposes—that of the education of the bee-keepers there.

In regard to the cost: I cannot tell exactly what those medals cost. I believe the cost to the Association and those who helped with that was about $80.00. That seems like, perhaps, a considerable sum; however, that $80.00 is going to last quite a while before somebody takes those medals away.

Perhaps it would be interesting to say something about the medals. They were hexagon in shape, and the face of the medal had a bust bar relief of Langstroth; and it was very excellent, beautifully executed; on the reverse side engraving; and, when some one takes the medal three times in succession, his name goes on.

Think of the advertising value in having that medal in your possession for one year!

Let it be known you took the gold medal at the Convention for the best honey, or the best something, or the best total exhibit; it is a fine advertising scheme for bee-keepers.

Mr. Bull—I was at the Michigan Convention and was very much pleased at the idea of putting up those exhibits. As Doctor Phillips says: Those medals do not represent what they actually cost. The value of those medals is in advertising.

The man who feels he wants that gold medal could not buy it for $500. It is the honor that goes with it that counts. While the medal probably costs $50.00, the extensive bee-keeper feels that it is worth about $500 to him as an advertisement.

President France—Do the members here suggest anything for the coming year? For another year, as instructions to whoever you may elect as Secretary. What are you going to do to make our next meeting a hummer? If Michigan can bring so many people together, and give these awards—and the beauty I see in those awards is that the party who is holding it today, until the next annual meeting, is not going to be asleep; he may lose it next year; he has the whole association to compete against if he holds it over two years—and then there is one more year.

This series of years of competing; I believe this is a grand good proposition and will awaken interest.

It brings an exhibition of goods to the Convention.

It is educational to those who are in attendance, and then the advertising is for every one's benefit.

The only point I care to hold on this at all is: Does this Association want to take some system by which there is an inducement for the coming?

Mr. Coppin—I would suggest that they do take it up and do something along that line for the next annual meeting.

Mr. Bruner—I would suggest that this thing be put in the hands of a committee; it is too much work for one man. The officers are scattered here and there, and that is the proper way to have it; but you cannot get men who are scattered that way together on this sort of work.

In the matter of correspondence: It takes time—and this Convention proposition, and the advertising in connection with it through these papers, and any other advertising, should be in the hands of a committee of several, who can get together and go into the details and get it worked out in a practical form and submit it to the officers, if you wish, for their O. K.

This is not one man's job; it is too much; you cannot depend on any one man to go ahead and do the work as

it should be done. Each one of us should be a worker.

I move a committee of five be appointed to take care of our next Convention, and that the officers be authorized to take any action they may see fit as to what shall be done in the way of offering premium prizes or anything else in connection with the next Convention. I move you that such a committee be appointed to take care of that part of it.

Mr. Kannenberg—All right to appoint a committee to look after those things and say what they are going to give for premiums—where are they going to get the money to buy premiums?

Either we have to pay more in this association, get more money in the association, or else it is no use to go to work and select a committee to decide. We want to give some present for the next exhibition, and have no money; there is no use to start anything of that kind unless you have the money.

Mr. Miller—I don't believe it is quite ready for discussion.

The Michigan boys tell me that they raised the money for those themselves. There are three medals: The gold medal was donated to the Michigan Association by the Supply Manufacturers of the United States.

A silver medal was donated—the money to buy it—by the Supply Dealers of Michigan—the jobbers of Michigan.

The third medal—the bronze one—cost but a trifle, comparatively. All made with the same die. That was furnished by the Michigan Association themselves, and consequently the total cost to the Michigan Association I would judge would be a trifle.

These were furnished willingly—an advertising possibility in business.

President France—Are you ready for this committee?

Mr. Smith—This committee acting in conjunction with the officers?

President France—I am fearful you are not going to have the thing in shape to bring it to pass for another year; I want to look forward to next year's Convention as offering beekeepers an inducement to come here.

Dr. Phillips—Have a committee of three good, strong men, and put two of them in bed seriously ill, and you may get something done.

(Applause.)

President France—As an expression of the house here—do you favor individually such a move as having these medals, or some other way of offering a premium?

Raise hands; If there is any objection to it, raise hands.

(None raised.)

Mr. Baxter—I did not vote one way or the other; I am not a member of the Northwestern any more and I cannot become one; I cannot come here; I am President of the Illinois Association and have all I can attend to besides my other work, but I believe that if you will appoint a committee of one—it is not necessary to have three and put two to bed—one live wire, who will devise some plan—you will have something.

I believe that is the only possible way to do it.

Five are too many; three men might do; two is better, and one is still better.

Mr. Bruner—I will accept the amendment.

Mr. Coppin—I favor the amendment.

President France—The original motion then will stand, amended to read, a committee of one. The chair appoint a committee of one to report to the officers of the Chicago-Northwestern in time that they may act for the next annual meeting.

Mr. Damon—I wish to amend that nomination and nominate Mr. France.

Mr. Williams—I second that nomination.

Mr. Wheeler—All those in favor of that motion, say Aye; those opposed, No.

The nomination was unonimously carried.

President France—The old saying is that he who has no time; whose time is all taken, sometimes is a worthy man.

I have more irons in the fire than I can handle and I promised my better half that I would come down to this meeting as it was my duty in promising that I would be with you for a few meetings. I have to be in a meeting of several hundred yet tonight—and I will be there when the hour comes—nevertheless, if you will stay by me, I will act as a committee of one to report to whom you may elect as officers.

And, if I make that report in time, I am going to involve all who are here to do something.

This committee of one cannot do it —the committee may suggest, but there will be **labor** back of it on your part.

You can see what success they have made in Michigan by their awards. The way they have worked to receive those medals, without expense, directly, to their association. Those things can be accomplished, but the individual members have to back it up with exhibits.

If you can have a series of these tables, such as are here today, going down this side of the room here, with displays, and you will bring in your instructors in economic teaching, that they may see the goods here, and the way in which it is created—and teach the bee-keepers how to better their market conditions and produce a better grade of honey, you will have an exhibit of great educational value, and it will create an interest. Competitors will compete for awards.

Dr. Phillips—One point I think ought to be considered in fairness to the members of the Association.

If there are to be certain classes next year, the members should know previous to the production season what they are going to have an opportunity to exhibit.

They might dispose of, or not produce the thing they would have to exhibit to be in the first prize class.

The members should be given an opportunity to know what the classes are to be.

Another feature: Whether they are allowed to put more than one article —more than one entry in each class.

In Michigan they decided to limit all exhibitors to one entry in each class; that man might take first, second, third prize in each class. Those things should be announced to the members in abundance of time previous to the honey season next year; perhaps not later than May first.

Mr. Williams—The question was asked here—Why the ladies do not attend the meetings more. In the cooking department, this would draw attention of the ladies. The ladies could furnish fine recipes for cooking. In Michigan the ladies were intensely interested. The exhibits of cakes were patronized and attracted much attention.

Then the boys—they had a class for their exhibits; that interests them; and in this way all were interested.

President France—I would like to say: Although this preparing for another year is well worth the time taken this afternoon, yet we are spreading out here and not getting down to practical things. Some of us have to be away before the entire day has gone.

I do not know but that it would be advisable to take part of the afternoon program this morning, that we may not have to hurry through the afternoon.

Mr. Bruner—I would suggest we have a five minutes recess.

President France—A recess for five minutes may now be had.

(Convention convened.)

President France—We have one number left. To hear from the delegate of the Northwestern to the National last year. The report of our delegate will be in order.

Mr. Bull—I think there is not much to report in addition to what you already know, especially if you take the Bee-Keepers' Review.

A year ago we recommended here that the National be incorporated; it seems that the year before at St. Louis the same thing had been done; the delegates there instructed the President to incorporate. The result was, six weeks previous to the December meeting of the Association, the National had been incorporated. Then the Constitution, as in the Review, you can look that over and understand it much better than I can explain it.

The dues were raised 50 cents; previous dues $1.50; that was for the Review and for our local Association and for the National Association, 50 cents to the local; $1.00 for the Review; nothing for membership in the National. Had no money in the treasury for the last two or three years; so the dues were raised 50 cents to go in what is known as the general fund; the dues were $1.50 whether you got the Review or not; if you got the Review it would be $1.00 for the Review, 50 cents for subscription fund; 50 cents to the general fund; if you did not want the

Review, the whole $1.50 would go to the general fund.

The Constitution, as it is, will not be amended this year because there has been no notice of amendments given out; so the Constitution, as it appears in the Review in December, is the Constitution of the National as it now stands.

I think most of you have seen that and understand it as well as I do; I do not know that there is much else to report.

President France—What was the action of the National, as to when and where the next National would be held?

Mr. Bull—There was no definite action taken; as far as I can recollect, the sentiment seemed to be for the east; Washington, I think, was mentioned as one place; that was left to the Board of Directors to decide.

The next meeting will be in Chicago February 22d, 23d and 24th, I believe, are the dates.

What becomes of it remains to be seen; I leave that to you to judge. Are there any questions you want to ask?

President France—If the Chicago-Northwestern decides not to be affiliated with the National, does the Northwestern Association care to have a delegate at the National meeting?

I understand it is proposed now to hold it the days Mr. Bull has announced, here in Chicago.

Mr. Bull, as a delegate from the Northwestern to the National the last meeting, what would be your suggestion as to a delegate being at the National meeting this year?

Mr. Bull—Michigan and Indiana have dropped out, and I understand several other states have withdrawn their support from the National; if they all drop out, that means there is no National. The National is made up of several affiliated associations; if the associations do not affiliate, that means we have no National, and I don't know of any that have affiliated.

I think Doctor Phillips could tell us something about that; he has been on this Convention tour for about a month now.

Doctor Phillips—I have nothing to say on that, Mr. Chairman. I would assume that if the associations were affiliated they would remain in that condition until they withdraw, and in that event there must be a number that are still affiliated. Mr. Williams ought to know; he is a Director. I should assume that a number of them were still with the National; of course some have withdrawn within the last few weeks.

Mr. Williams — There is another member of the Board of Directors here who is probably better qualified to answer that than I am. My understanding is: You know the old National Bee-Keepers' Association was not incorporated, was composed of various local Bee-Keepers' Associations, but I understand, having become incorporated, this is changed somewhat, and is now composed of separate individual members and also various associations that wish to be affiliated. Am I right, Mr. Baxter?

It is a rather mixed up affair in my mind; I would like to hear from Mr. Baxter, what his idea is in the matter.

President France—Mr. Baxter, can you unravel this tangle?

Mr. Baxter—What do you want to know?

Mr. Bull—Who are members of the National?

Mr. Baxter—According to the new Constitution, all of the old affiliated Associations that apply for re-instatement are members; and provision made for direct membership of indivaduals.

In regard to the point Doctor Phillips raised: Those who did not withdraw would still remain members; that depends on the Constitution of that Association. Now, Illinois would not, because Illinois is an incorporated Association, and they can only affiliate by resolution and if they fail to re-affiliate they are out; but the Illinois State decided, by direct vote of its members, that they would not affiliate any longer.

That Constitution and By-Laws were published in the Review.

I question its correctness. I have a copy of the proceedings that were taken direct out there; and I think that there have been errors made; I do not believe that is exactly the way it should read, but that is the provision made for membership at least.

Mr. Bull—I know Mr. Baxter is exactly right; it is up to the Associa-

tion; or rather, when the National Association was incorporated, they put the old National out of business, and they have a new Association, and they voted through the delegates to accept all the different affiliated associations into the new Association; those that were already paid for. If I understand it right, they are affiliated as long as they pay their dues.

The different Associations have to vote as to whether or not they will affiliate, but any individual member can come in and be a member of the National. The entire Association will not be members except they vote to affiliate and pay their dues, which is to be $1.50 in addition to their local dues.

Mr. Baxter—The $1.50 was supposed to be $1.00 for the publication fund and $.50 for the general fund; that $1.00 was supposed to go to the Review; those who wanted to join for $.50 and not receive the Review, it was optional with them; it would be $.50 in addition to their local dues.

Mr. Bull—This point I raised at that Convention and tried to get an understanding but I failed. I confess I don't know.

That Constitution—it would take a Philadelphia lawyer to interpret it, and no two would get the same meaning out of it.

Mr. Kannenberg—That means the National wants an extra $1.50 per member if we stay with the National.

I make a motion that we do not join the National again.

Motion seconded and unanimously carried.

President France—I have been requested not to take up the subject of Bee Diseases until after dinner. When we get on to that subject of bee diseases, there is no end to interest and discussion of it.

Mr. Bruner—I move you that we join the State Association as a body as we have done heretofore.

Motion seconded and carried.

Mr. Wheeler—Do we pay $1.00 extra?

Mr. Baxter—Is it $1.00 extra? I don't believe that is correct, is it? $.50 for the Chicago-Northwestern and $1.00 more to the Illinois State, making $1.50 total dues.

Mr. Kannenberg—We pay $.25 to the National and $1.00 to the State Association; that left us a quarter and we were always without some money.

President France—Retain $.50 for the support of the Chicago-Northwestern and $1.00 for the Illinois State Association; that will entitle you to the Annual Report of the State Association and the Chicago-Northwestern; that book is worth what it costs.

President France—I will appoint Mr. Bull and Mr. Kildow tellers for election.

Mr. Wheeler—Mr. Chairman, I name Mr. N. E. France.

Nomination seconded.

Mr. Wheeler—I move that we make the nomination unanimous.

Mr. Wheeler—It has been moved and seconded that Mr. France's nomination be made unanimous.

Motion carried.

Mr. Bull—I move the Secretary be instructed to cast the ballot for this Association unanimously for Mr. France for President.

All in favor of the motion, say aye.

Motion unanimously carried.

President France—Who is your Vice-President nomination for next year?

A member—I nominate Mr. Bull for Vice-President.

Nomination seconded.

A member—I nominate Mr. E. S. Miller.

Nomination seconded.

Votes cast—19: Mr. Miller, 13; Mr. Bull, 6.

President France—For your Secretary and Treasurer.

Mr. Kannenberg—Mr. President, inasmuch as our Secretary for the last year has done so well, I think he should stay in office for another year. I name Mr. Bruner.

Mr. Bruner—I nominate Mr. Bull. I have about all I can swing. This Secretary job is a little strenuous; I don't think Mr. Bull is quite as deeply in as I am; he has been at Conventions and knows the proceedings; I don't. This is the first Convention I have attended regularly. Mr. Bull is the man who would make you a good Secretary.

Mr. Bull was nominated as Secretary-Treasurer and elected.

President France—Do you see this map here with all those dots on? That means something. This afternoon we will take up the subject of Bee Diseases—our Inspector's report, and conditions; and I want to say I am liable to make a statement right after dinner that will surprise you.

Mr. Coppin—Will you wipe all those spots out, Mr. President?

President France—No. Say, I will tell you what I said in Wisconsin last week at our State Convention.

"European foul brood in Wisconsin is a blessing," and I believe it is true in Illinois. You may think I am a crank; I don't want to take up this subject of foul brood until after dinner but I do believe from the depth of my heart that there is nothing that has come to American bee-keeping that has been better for the country, for future bee-keeping, than European foul brood—as serious as it is.

A member—You would advise men to introduce it into their communities?

President France—I don't know but what it would be the best thing possible. We don't wake up to these conditions until they get into our possessions. I have yet to find a man in Wisconsin who has a siege of European foul brood who will own to it he is glad he has had it; but he does not fear it any more; and he is a better bee-keeper.

President France—Do you elect a representative to the State Association?

Mr. Bull—I don't believe we ever have.

Mr. Kildow—I think it would be a good thing if you did.

President France—I think it ought to be; I think this Association ought to have something to do with the State Fair premium list. Wisconsin wants us to name a judge. Get a practical bee-keeper as the Judge of Bee and Honey Department.

The Illinois State Board want to make their Fair better, and when you co-operate together you do make it better.

President France—Are there any further delegates or representatives to be appointed?

Mr. Baxter—One thing I would like to have this Association do, is to pass a resolution asking the State Fair Board to erect a building exclusively for bee-keepers. A resolution passed by this Association would help us materially. The Illinois State passed a resolution asking the State Superintendent of Public Instruction to exact the teaching of the uses of honey in the Domestic Science Department in all the schools under his jurisdiction. We would like a resolution passed, here, for that.

Mr. Coppin—The space that is allotted to us for an exhibit at Springfield is always filled to its full capacity, that is around three sides—in the center it is filled with vegetables, which is annoying to bee-keepers.

So we want those vegetables taken out, and the whole of that space given us, or that we be furnished with a separate building, that we can make better exhibits than we have been doing so far.

There are some things they have cut out that we did have—the extracting of honey at the Fair; they took the premiums off on that.

And the manipulation of the bee. At the Fair that was taken away this last time; we want to make it of more interest along that line. We appointed a committee for that purpose. I am one of that committee. I should think it would be a good idea for the Northwestern to do what they can towards helping that committee—so that we may have more premiums, more space, and make it more interesting; if the Northwestern could pass some such resolution, it would be a help.

President France—The first year I went to the Minnesota State Fair as Judge, they had a wing of a building for Honey Exhibits.

There was a space left in the report blank for suggestions from the Judge for the betterment of the Fair for the coming year. I filled nearly a page in with suggestions; and one thing was, I advocated a separate building.

The next year I was back as Judge, and I put it on again—a separate building—you need it.

The State Association took the matter up and made application for a separate building. The result was, they have a building that is about 60x120—just for bees and honey alone. They have raised the premiums to correspond with the building and may I say,

there is no other state I have been in that has the display of bee and honey exhibits they have: A cage for demonstration work, owned by the State Fair and housed out of the rain during the year, except Fair days, all under good management. They don't allow all kinds of things to get in there to take up space.

By your continuous application—though you may not gain it at first, you will succeed; Illinois exhibits should have more space; and your exhibits can be added to by other states—but now there is no room.

Again, I question the advisability of your revising the premium list by which premiums are awarded only to Illinois goods.

Michigan and Wisconsin and Minnesota have for several years narrowed their premium list to Wisconsin, Minnesota or Michigan goods respectively to their state. In a way that gives local men a chance, but it cut out the outsider.

The older people know how Mr. Hutchinson used to make a display which cost him more money to accumulate than his premiums, so that when he made the circuit, though he had won the greater part of the premiums, when he got home he was financially out—yet the satisfaction to him of those awards, he said, more than paid him for the money he had expended.

Mr. Wheeler—How about the other fellow who didn't get the awards and didn't get his pay even in awards?

Mr. Bull—He probably didn't have as much expense.

President France—The local man does not have as much expense as the man from abroad.

But the question is: Do you want a big display?

If you have a big building—don't narrow it down to Illinois.

Mr. Coppin—It is not narrowed down now to Illinois; it is open to the world and has been all the time, as near as I know.

Mr. Bruner—I suggest that this be left to a Resoultion Committee in connection with Mr. Baxter.

As Chairman of that Resolution Committee, I would ask Mr. Baxter or any one else that has any resolution to prepare them and send them in.

President France—We will leave it then with the Resolution Committee.

Now, so far as I know, our program has been worked off with the exception of this all important subject—Bee Diseases.

Mr. Kannenberg—Was it not suggested to have a delegate to the State Convention appointed?

President France—Do we want a delegate to the Illinois State meetings?

Mr. Kildow—I, for one, would like to see this Association here send a representative direct to the State. I believe it would be a good thing.

Mr. Bull—I believe that would be a good idea. We have been joining the State for a number of years—for the last 12 years I have been here. I think it would be a good idea to send a representative to the State.

Mr. Baxter—We will be very glad to have you there.

President France—Is it the sense of this meeting that we as the Chicago-Northwestern have a delegate at the Illinois State meeting?

Mr. Kannenberg—I move you that we elect a representative to the Illinois State Convention.

A member—I second the motion.

Motion seconded and carried.

Mr. Kannenberg—I nominate Mr. Bull.

A member—I nominate Mr. Stanley.

President France—Just a word of explanation in behalf of this delegate going; does he bear all his expense, or part of his expense, or what is the consideration of your representative there?

A member—I don't see how we can pay the delegate's expenses. It will cost considerable money to send you to Springfield.

I think the honor of being elected should be sufficient in this case and let the delegate pay his own expense. Let that be understood.

President France—If the delegate lives a considerable distance he has to be pretty generous.

President France—You have two nominees.

A member—I make a motion that this Convention be called to order at 1:15.

The result of the ballot for a delegate to Springfield:

Mr. Stanley, 5; Mr. Bull, 17.

Mr. Bull was elected delegate.

Meeting adjourned until 1:15 p. m.

AFTERNOON SESSION.

Meeting called to order at 1:15 p. m.

President France—Let us take up the question of Bee Diseases and, as I said before dinner, I made a statement in our Wisconsin Convention last week I believe honestly that European foul brood in the state of Wisconsin had proved a blessing to the state, and on the same basis I believe it is to all the states.

Because, wherever I have found disease, and the bee-keeper has become aware of the seriousness of the diseased conditions that are surrounding him, he has set to work to clean house, and when through with it I have repeatedly, over and over again, said "I am glad I have had foul brood (European); I don't fear it any more" —and he is going to be our coming bee-keeper.

I would prefer to take this subject up this afternoon—American foul brood—how to know how to treat it.

I don't know any better way than to have your Inspector of this state to take it up. How to know American foul brood and treat it, Mr. Kildow.

Mr. Kildow—I would rather see somebody else take that up. While I am the Inspector of the state, yet I am not a talker in Conventions.

I think the best way for a man to know it is to get his fingers burned with it and he will know it. You have all heard of it; you may not have seen it, but I don't know as I can describe it better than you have seen it described in bulletins and literature on the subject.

I don't see how I can describe it any better.

If you ever see it in the real stuff, you will know it.

If you have not seen it, I would advise you to go to some place where they have field meets, or where it is, and see the real thing.

The treatment has been given so much it has gotten to be worn threadbare.

I would rather answer questions than to try to tell you a lot of stuff that many of you have heard time and time again.

President France—May I inquire how many here have never seen a case of American foul brood?

(Three.)

President France—Well, I am glad, indeed, we have three who have gone free so far, and I hope you always will. It is something there is no joke about.

Just for half a moment, for the benefit of three:

When the brood comb shows a darkening in color with sunken cappings, ragged hole in cappings—turn that comb so that the light will shine into it, so that you can see into the comb on to the lower side wall, provided this was retained in individual cell; on the lower side wall, part way from the front, dried down larvae—In some cells you will see the earlier stages, brown chocolate or coffee colored material; if you will insert a match into that dead larvae it will draw out ropy matter.

Once in a while a larvae, in its last stages of life, will throw out the tongue with that force that it will strike the upper side wall and remain so that after the larvae has dried down there is a tiny thread of that tongue still adhering across.

That is not general, but you may find those in combs. Then, there is the odor. I don't know how to describe it; it smells just like American foul brood.

Mr. Kannenberg—It smells like old carpenter's glue.

President France—With those conditions, if you find it in your hive, then the treatment is to be looked after; but here is one point: Whether we have had the experience or not, it is folly for one man, having the disease, to go ahead and clean up unless his neighbors will do likewise, if they are infected.

About two weeks ago I sent out a little more than 1,000 circular letters to Wisconsin bee-keepers, getting statistics, and asking them would they give me the names of bee-keepers within eight miles of them, making a little mark, if they suspicioned any disease.

I received several hundred new names, some of which had that mark;

that check of suspicion of disease, and, in corresponding with some of them later on, I found they had the disease.

Who is to blame? The men who owned the bees didn't know it; the neighbor kept it still to himself; and I was censured for not cleaning up foul brood; it was only a few days ago I had heard of it.

We have to co-operate in the eradication of bee diseases—but as for this topic, American foul brood, is there anything further on the description of or the treatment of it?

The treatment of it has been repeatedly, over and over again, written up.

Mr. Miller—In recent modern cases, what has been the mode of treatment, any different?

President France—Perhaps Mr. Phillips can give us a better reply on behalf of something more modern in the treament of American foul brood.

Doctor Phillips—Still recommending the shaking treatment as usual. It can be modified in various ways.

Get the bees from the combs and start anew. Mr. Walrus has taken them out through a tube, which is all right. also.

President France—Some experiment has been tried, getting the bees off from infcted combs by gradually drowning the bees out by water; in a good many cases it proved a success; in some cases it did not.

So that, whatever the method may be, we want to get the bees as quickly as possible away from the infected combs; and look out, in getting them away, that they don't fill themselves with infected honey and carry it.

The Baldrige method is allowing the bees to go out undisturbed and they are not likely to carry disease.

Mr. Wheeler—What objection have you heard to the drowning out method? Do they stay on the brood?

President France—No, the bees had to get out or be drowned so that any that didn't leave went with the infected combs, but the bees, when they were put on other quarters in two cases, I have known the disease appeared again; evidently they carried it with them.

Mr. Wheeler—They always do when shaken out.

President France—In Minnesota, Mr. Leonard, I believe, was the originator of following out Mr. Baldridge's plan in a modified way.

The new hive was connected with a tube and the bees went through this into their new quarters. There is a man owning bees in six different states. His method has been to put one dry extracting comb in the center for twenty-four hours that the bees coming there would undoubtedly deposit infected honey they had into this comb; and then, quietly remove that one. That has worked well.

The idea all the way through with the American foul brood is to get the bees away from the infection and then get the infection entirely away from the bees thereafter. I was told this morning that a party had very carefully gone through all of this; had taken the brood away and cut out the comb and rendered it into wax, and then threw the frames which were more or less soiled with honey, out where his bees could clean them up. Some little detail like this, not taken care of, spoils the whole thing.

I tried, a few years ago (it was the year we had our annual meeting in Los Angeles up in the center of the state) to treat a yard for American foul brood where the infected combs were submitted to a treatment of formaldehyde gas.

I went to a lot of expense; had the carpenter make double-walled wooden box, lined in a tinshop by a tinner, making the inner case; put in there the infected combs and fumigated them; put in the center so that they had ample space some healthy brood, just at the point of hatching.

After leaving them in the proper amount of time, upon inspection, I said, "we must double the dose." On opening the box I took a piece of brood comb and removed the cappings. With a pair of tweezers, I took a bee out of the cell and it crawled more than the length of my hand; and, when the fumes will not kill the life of a bee, it will not kill germs it cannot get at.

I took those infected combs and put those into a hive body and put a colony of bees that never had the disease on to them.

I went on to the National Convention, and, on my return a month later, new brood nicely being capped over showed early stages of American foul brood.

I let it remain until long enough to be hatched; to satisfy the owner, the treatment was not a success.

We may credit McEvoy, of Canada, for introducing the practical method of treatment for American foul brood.

The principle involved is to get the bees away from the infection and to be careful and get the infection where they never will get to it.

A word of caution: Don't buy honey from unknown sources to feed your bees. I believe the largest bee-keeper in your state inoculated his yard with American foul brood by feeding honey that had come from outside the state.

I know of another case where American foul brood combs had been sent to a supply house to be rendered into wax and the bees contracted the disease at the receiving station.

If you have infected combs and want to render them into wax; send the wax to your supply man to be made into comb foundation but don't send the refuse in any way to injure others.

I think your state law will practically forbid that.

I wish it were possible, and I came near making it possible in our state two years ago, that the sale of second hand honey cans would be prohibited; can which come from infected territory and are liable to be thrown premiscuously outdoors where anybody's bees have free access to same.

Less than a month ago I said to a bee-keeper: A man at the hotel says that your bees swarm every day and stay over there about an hour and a half and go home. You had better go over there; and he came over. I said: "I want to show you something in the back lot. During the noon hour, while the bees had their best flight, they come over here into this back yard and have taken possession until the ladies from the house are afraid to go back there to throw out their waste because your bees are here in great numbers and are going into these tin cans."

Here are 52 tin cans right here; all but one with the screw top off and the bees helping themselves. Fortunately it was a lot of maple syrup cans, but it would have been the same had it been honey.

President France—Is there any one who wants to bring out anything further on the subject of American foul brood?

A member—If honey is merely heated, will that carry disease?

President France—Unless it is heated to the boiling point and kept at that point for about 15 minutes.

A member—Half an hour would be safer.

President France—After you have boiled that honey for 15 minutes, who wants it?

Mr. Bruner—Three minutes is long enough.

Dr. Phillips—Minimum time is ten minutes.

Mr. Wheeler—What is it good for after it is boiled?

Mr. Stewart—Good for feed.

Mr. Brinkerhoff—Don't you think there ought to be some stress made on the early symptoms of the disease? I doubt if you will get an odor in the early stages of the disease; surely it will not have the scaly appearance in the early stages.

Mr. Bull—In regard to the early symptoms: The symptoms are always the same. I think he means to treat the colony before it is badly diseased; there is no difference whether there are three or 3,000 cells; the symptoms will be the same. The idea is to see those cells before they get too thick.

The quickest way is to go to a colony near the center of the brood chamber and take a comb of brood that is hatching bees, say commenced to hatch four or five days or a week before he looked at it; so the center in the comb will be hatched out and re-filled with eggs.

If you find a cell in that batch you have looked over, you had better look out.

Mr. Kildow—One great trouble with our bee-keepers is they do not look at the brood; they think a colony is comig round all right; they ought to examine their brood; that is where you will find this stuff.

Open your hive when the weather is all right and pick it up and examine it; don't say, "that is all right" and pass on.

That is where you miss out so often. Examine that thoroughly and carefully. As far as the smelling is concerned, you

will get the odor when the larvae is half decayed.

Mr. Wheeler—I have held to the point for a good many years: That I believe the colony was diseased long before human eyes or sense could detect it. I believe the bees claen out and destroy for a long time before you see the symptoms of the disease; I think it is when they have begun to give up, like the human system gives up to certain diseases—when they begin to find the operation of resisting it so strong they give up—then you begin to detect those cells. I have never seen anything that made me believe anything different yet. I think the disease is lurking there a long time before there are any pin holes in the brood.

Mr. Miller—I would like to ask: How long it takes, from the time you first notice the symptoms, to develop until that colony begins to go down hill. Or in other words: How long the disease usually runs, one or two years, or six months or six days?

President France—According to the individual who is taking care of it; it varies.

Mr. Miller—I mean, run its natural course in the colony?

President France—It would develop if the season was not over good for honey crop; that makes a difference; and you might get rid of the disease in the course of the season; with a good bee-keeper, he notices conditions in time and takes care of it quickly.

Mr. Stewart—I would like to ask: How long, from the time the larval bee dies, until this characteristic ropiness is evident or pronounced enough to distinguish? Is there any possibility of one being confused as to that distinction, in the early stages? If one is working for comb honey, going through the hives from week to week and cutting out cells, and notices dead brood, is there any possibility as to one being mistaken as to whether it is American foul brood, if you depend on the test of ropiness?

Mr. Kannenberg—I had an experience in a case that way. I found that when you have a hive where the brood is coming out and you watch it close, those that the brood is not coming out, you open those cells; it is ropy already.

It takes twenty-one days for the bees to mature and when the bees mature that other that is foul brood is gone into ropiness. I think everybody, who opens a cell then, will find it is ropy. It rotted away in twenty-one days.

Mr. Bull—The idea is this. As soon as the capping of the cell shows any indication of disease there will be ropiness there; when there is the slightest indication of disease on that capping. I don't remember seeing any disease, but that it is sealed over first.

Mr. Kildow—Not always.

Doctor Phillips—In the early stages, almost always. There may be a case occasionally, but very rare.

Mr. Coppin—I found brood in the hive lots of times, dead, without being sealed, and others sealed and little pin holes in the cappings and ropiness there; and at the same time there were other dead bees not sealed.

President France—It formerly was sealed and the bees are trying to remove the capping. I question if the bees can remove dried down American foul brood, but they will remove the capping. So we may see many cells apparently without any capping on.

Mr. Wheeler—Don't you think they have removed that brood?

President France—Not if dried down.

Mr. Kannenberg—I think I had the same experience and the bees had not removed this foul brood because it is dried down so solid they cannot remove it; they lay eggs right in it and have foul brood over again.

Mr. Kildow—After it is dried down, they can't remove it, but, before it is dried down, they don't want to get hold of it.

The bees will back away from it; if you punch one in with a tooth pick and after it is dried down, it is very much like glue on wood. I believe it is impossible for the bees to remove it; when it is ropy, they won't get into it.

Mr. Brinkerhoff—I would like to ask Doctor Phillips if he knows what its period of incubation is.

Doctor Phillips—It is very variable.

Mr. Wheeler—I don't think you can tell by that scattered brood test. A great many old queens will scatter their brood through the cells that are

left. I watch that pretty closely; I don't believe that is a test. Try those cells that are scattered and you will find good, healthy brood there. I have found, a great many times, the queen deficient and the brood will be scattered.

A member—We ought not to have that kind of a queen.

Mr. Bull—If you find a cell there, don't think there is going to be American foul brood; but that is the place to look for it.

President France—Let us draw a comparison between American and European foul brood so that we may know the difference.

Who will take the description of European foul brood, compared with the other?

How many have ever seen European foul brood?

Mr. Stewart—If they have not, they have not learned their trade as beekeepers.

Mr. Kannenberg—They may have seen foul brood and maybe it was American foul brood and they thought it was European. I do not know how European foul brood looks.

President France—There is as much difference between these two diseases. Let me try a comparison of the two. With American foul brood we have that coffee color, ropy stage; with European, we do not.

With the American foul brood, preferably, all workers bad in the hive before the queen cells are infected and seriously bad before the drones are infected.

With European: There is no discrimination; the queen, worker, drone or all brood may be infected.

There is one decided difference: That peculiar smell of American foul brood is not the same with European. In fact it is only in serious, severe cases where there is any noticeable odor of European foul brood.

I have had some yards where they imagined they smelled something; they said they did, but my nostrils had not found it yet, not that noticeable odor, but the larvae is attacked much earlier in its life with the European. A yellowish streak upon the white larvae with the head somewhat dried and instead of taking that drop out of shape a flat, brown mass, it settles, as it were, straight back into the cell and it is not ropy.

If you would take a toothpick or pair of tweezers and get hold of that larvae it will come right out; use an old comb and you can jar it out. American never loose.

Those decided differences ought to determine whether we have it or not.

European will go through the entire hive much faster than the American does.

I don't know whether I have given a comparison, one with the other; perhaps Doctor Phillips can, more plainly, describe those conditions.

Doctor Phillips—I don't believe that I would add anything to what you have said. The yellow color and position and age and infection of drone, it seems to me, are the characteristics of European.

There is quite a pronounced difference between the two.

Mr. Kannenberg—You said, how to cure it; put in young queens. Is that the way you mean?

President France—That is one of the stepping stones; don't put in young black queen and call it cured. The more disease resisting the strain is, the better.

One of the first cases I had to care for in our state: We sent to the central states, to one of our best queen breeders, for the choicest golden queens he had, regardless of price. We wanted to cure that yard; we did it.

One treatment and it was through with, and that man today swears by Goldens, and says there is nothing but Goldens for him.

We did it by requeening, but the more I study the importation of bees—like in poultry—we produce new strains by the crossing of others, and I fancy this Golden Italian queen is an American fancy; we don't find it the stronger strain; it is one which will give way to spring or winter conditions. With me they are beautiful to look at, but they are not the honey gatherers.

There is just as much indivdual difference in bees as in any other animal life.

Some of the queens that have been sent to our state have, when introduced in the same yard where others have been introduced—some would

show a scattering, here and there an occasional cell of disease; and later on, perhaps, get rid of it; others never got rid of it; still other queens, they would clean out and remain so, and, so strong was the resisting power, her daughters failed to show the disease.

I call to mind in one county, I referred to a while ago, where, on my way to Minneapolis, I was, for three days, in that county visiting several yards and failed to find a yard but what European foul brood was there. That was the county where they did not believe in outside blood.

In one of those yards of 200 colonies, several queens were introduced from different localities, and, it was found in one shipment, not a queen there introduced but what they were through with European foul brood.

A few miles (about four miles from there) to another yard of eighty colonies, all but one infected with European foul brood. He had purchased queens from some of these same queen breeders; he found this one peculiar individual strain was disease resistant; he said, "I would not take $25.00 for that queen today."

I question if the whole cure of European foul brood is by requeening, because we have the experience of Doctor Miller in our neighborhood, who takes a queen and cages her for a time and lets her go back again in her same hive; the idea is, if a strong colony, we must induce them to clean out, and they will do that better in a queenless condition.

Mr. Stewart—When you introduced those queens, how long did you let her lose, after the first queen was taken out?

President France—How long were they queenless? Ten or twelve days.

On that point of how long to be queenless: Take Mr. Alexander with 600 colonies; foul brood struck him; he decided he wanted three weeks, queenless, but experience since then has taught us a shorter time seems to accomplish the same object.

There are other conditions which we don't know of. I own I don't know how European foul brood spreads. I am like Doctor Miller, I don't know; I wish I knew of some one who did positively know how European foul brood spreads, but we don't know.

In many instances, the requeening has been our great salvation. Until we can develop something further, let us hold to that which we have already learned.

Mr. Miller—Inasmuch as I have had considerable experience with European foul brood and have succeeded in getting rid of it entirely (about 400 colonies, altogether), it may be of interest for me to tell how I did it.

One of the principal factors in the success was requeening with strong Italian stock.

About seven years ago it first struck my yard. First, the first yard; then the second, then the third. I cleaned out two of those yards almost entirely. I cleaned them up and I fought it for a number of years.

At that time my mode was the shaking method, but not very successful. It would not stay cured.

I kept to work. At that time I destroyed combs. Since then I have found out that is not necessary—to burn up hives and bees is foolishness. I have thought the way the disease is transmitted is by the feeding of the dead larvae to the live larvae by the bees.

If we can make a break in that brood rearing for a sufficient length of time, until that larvae can be cleaned up or become so old it will not be fed to the young bees, then it will not be readily transmitted.

One factor to suggest is this: The fact that I was very careful in examining every hive when I had foul brood once in two weeks or more often.

The last method I used (I have tried every known plan suggested on the subject) but the last method used was simply this:

I find that hive that has a number of cells of European foul brood—I kill the queen. Later on I destroy all cells started. Two weeks, put the queen excluder on every other hive and set it on top; that is very simple and easy and it has been successful.

In two yards, I have not had any European foul brood for three years—and this present year I didn't have a single case in any of the five yards, and if I should run across a hive or two next year, it will not worry me.

In one or two operations it is done, and nothing more to look after.

President France—You note one thing with Mr. Miller: He is watching, and when he has only a few cells, while the colony is still strong, he

makes this treatment. There is a very important subject.

Mr. Stewart—If there is a shortage of food, does it not increase it?

Mr. Miller—If the bees are storing, are getting a good deal of nectar, and any dead larvae in there, they are apt to cover it up and it is hard to find it; when they eat down to it, they come down to the disease and transmit it again.

Mr. Stewart—I want to know how they start it.

Doctor Phillips—That is what I would like to know. There is one thing with the theory that Doctor Miller suggests, of feeding the juice of the dead larvae to other larvae; that will explain a good many things about European foul brood. Here is one that has not been explained. How does the disease come to the first colony in the spring?

Mr. Stewart—Starvation?

Doctor Phillips—No.

Mr. Wheeler—I believe there is something in that starvation business; the more I watch them I think there is something in that starvation business; they get short of stores—of honey, and the bee is a very economical fellow; he eats up eggs when he does not have any use for them, and I think he eats up larvae in the same way; it might be possible; it is questionable in my mind.

Mr. Kildow—I can't take any stock in that starvation business; we had lots of colonies that starved to death before European foul brood was discovered.

Bees, for ages back, before this European foul brood appeared, have starved to death every year. If that had been the case, it would have developed years ago.

Mr. Stewart—I am taught that germs are in the air all the time in this climate; and, if our system gets in proper condition, we get disease; who knows but what the bees, feeding their brood on that, starve—it weakens them down and puts them in that condition.

Mr. Wheeler—This point we have noticed: That, in a poor season when very little honey is coming in, foul brood, European foul brood or American, either one, is worse in a season when honey is not coming in plentifully—when the bees are short of stores.

If they are short of stores, they resort to other food, like pollen and possibly to the other larvae.

If they can't get honey enough to feed the brood they may resort to making a jelly of bee food. Diseases are worst during honey drought.

A member—I have had bees running for twenty years and never had European foul brood. Always give bees penty to winter on, two frames of pollen and requeen every year from some part of the country.

President France—There is some wonderfully good advice. Requeens nearly every year, with best of food—new blood, and with all this number of colonies, and yet, to find the first case of disease. Foul brood within walking distance, all around.

A member—The statement was made that insect or any animal life are inclined to succumb to disease if they are not strong, but so long as they are strong, and in a healthy condition, they can resist those germs of disease; they can expel them from their system; but as soon as they get weak they lose that strength—that power, and they are, before long, gone. That it is with everything like that; so if we keep our bees healthy and strong so that they can expel all disease they will not be exposed as weak colonies are; therefore, keep the colonies strong; all these things, requeening and so on: If we get strong colonies and healthy, the disease will not attack the healthy, strong colony.

Doctor Phillips—It may be correct in theory but there is one difficulty in observation which has to be overcome: It is the strongest colony in the yard which gets American foul brood first in almost all cases; and I seriously doubt whether the organisms which cause American foul brood can enter any colony without the disease appearing. The organism is a most tenacious and tough proposition, and, if a strong colony gets out and succeeds in robbing from a diseased colony in the neighborhood, the disease will appear.

With European foul brood, the conditions are different, but American foul brood is no respecter of size, of age, of race or of anything else that I have been able to find out; and while I don't believe that diseases originate through

weakness, these specific diseases, they are as different as our human diseases that are produced by bacteria; at the same time I think for European foul brood, a weak colony may be overcome more readily than a strong one, but not for American.

Mr. Williams—I have had rather an extensive and expensive experience with American foul brood, although I have never been bothered with European. I have this to say: I have the first colony to see yet that would rid themselves of the disease; if the disease had once entered the hive, that hive is a dead one if left to its own resources; I never saw one recover.

Mr. Kildow—I will tell you of a little experience: A neighbor of mine: He is a crank. He had American foul brood; he wanted to test it to see how it would spread; he took a tooth pick and stirred up the honey; one of these dead larvae fed to a healthy colony, and watched the development after feeding it to the bees.

It was only a short period before that colony showed it.

He is a crank. He does not take any guess work.

That shows how quickly it will develop; just feeding those two or three bees from a tooth pick.

Only a matter of two or three days: It showed the sunkenness.

A member—I have had a similar experience as Mr. Kildow explains there. An Inspector came into my yard when I was having some trouble, and I didn't know what it was; at that time I was corresponding with Doctor Phillips, and trying to get the Department of Washington to tell me what this trouble was I had.

This Inspector came along and said it was European foul brood.

I never had anything to do with the other. I was somewhat worried when I first discovered what the trouble was. But I thought—as long as I have got it—the bees might as well all have it. So that colony went from bad to worse, and I took it away finally and the honey from it, and fed that honey to every colony in my yard—36 at that time. I destroyed that one colony—and I didn't see anything more of European foul brood; I fed all the honey from that colony to every colony in my yard; was practically rotten with foul brood; but I didn't develop any more cases from feeding diseased honey.

Doctor Phillips—What time of the year was it?

A member—July.

Doctor Phillips—European foul brood is an early spring disease.

Mr. Bruner—There are two questions I want to bring out. When we should begin to look for European foul brood—and how long should we keep up the inspection?

President France—I should say: Begin about the time the first brood is hatched. The statement I made, that I believe European foul brood is to many of us a blessing: Is that we will know hereafter what is the condition in the brood chamber.

Repeatedly I have had the bee-keeper say: "My bees are all right; they are working fine." Does he know they are all right? Has he been down in the brood chamber? I find sometimes when I open the hives and examination tells me they have not been there for more than a year, I begin to question.

One point, as to endurance or vitality in resisting germs in American foul brood:

A little north of here I stopped at a farm house for dinner. "Yes, we are bee-keepers. While you are here you might as well pay for your dinner by inspecting my bees. We know they are all right; they are working fine. A swarm of bees came here and my wife hived them in a cracker box while I was up in the field; and then I put them in a new hive; I turned the box wrong side up; took the privilege of cutting out two of the best combs of brood; he said, "if that is all right, the others cannot help but be."

I said to him—"Where did you get this hive; this is not a new hive?"

The moment I raised that lid—I said to him—"You raise that and take a smell. I know what is in those combs;" it was there in abundance—American foul brood.

"Where did you get this hive? And these combs have not been built by this new colony."

He said: "I brought it down from the granary; we have a whole lot of them."

I said to him: "You have been in business before?"

"Yes, and they all died; we had bad luck."

I went up there and I examined 15 hive bodies; he formerly was a stone mason by trade, and, as soon as a colony had died, he had sealed it up tight.

There were all the stages that have been described here: The sunken cappings, in abundance. He had taken one of those hives in that condition and put this new swarm into it.

I asked him: "How long ago since you had bees?"

"A long time." His wife said: "Don't you know when we had the last swarm? It was when our boy was born and he is eight years old."

Now, it had been lying there idle, and when the opportunity came it developed.

McEvoy, of Canada, said that he believed, so long as that comb existed, those germs would be waiting for a favorable opportunity.

On the other hand, it is said, that freezing evidently would kill the disease. If freezing would do it, those had been there eight winters, in a building without heat.

In our experimental station work, we have tried a temperature below freezing point, and it is surprising the resisting power of American foul brood. There is only one thing to do: Boil it. Get it away from the bees, and, if enough of it, boil the combs; you can sell that beeswax to be made into foundation. I do not believe it is possible for foul brood to spread through the use of foundation.

Mr. Wheeler—There is one point that still rankles me a little: I run up against Mr. Kildow and Doctor Phillips on it.

Anybody, that has a case of foul brood, can test it for himself all right, but I have held, for a good many years, the bees clear out American foul brood before you see any pin holes—any dead brood. I still hold to that. From what has been said, you would think the bees would not touch the disease; the proof for which is: You take a tooth pick, and you find that ropy cell; you take and stir it up with a tooth pick and draw the ropiness out; go back there in twenty minutes and the bees will have cleaned it out.

If they will clean out one ropy cell they will clean out hundreds of them.

The bees, until they are overcome by disease, continually clean, clean, clean, as their nature is to keep the hive clean.

When they are overcome by it, they hang back and the larvae is left in.

Mr. Bull—I would like to ask a question in regard to treating for American foul brood—shake on starters or full sheets, which?

President France—That will depend. If a beginner in the business, I would say, take foundation starters; but, if an experienced bee-keeper, who is careful in watching these things, he can use a larger amount of wax and full sheets.

The advantage in the use of starters: The bees have to draw out their combs and are more liable to make a perfect cure, but unfortunately a large percentage of that new drawn-out comb is drone comb, and you are in a bad fix again.

Mr. Bull—Is it not a fact, the amount of disease in the hive makes it a large factor?

For instance, if, in a colony here and there, a cell—would you not consider it folly to shake that colony or colonies?

President France—Certainly, if you have an extra strong colony.

Mr. Mackeim—I have tried a modification of the McEvoy treatment, by shaking them into an empty hive and putting on a queen excluding board under cover. There is always bur comb sticking to the queen excluding board; they will build down and use honey taken with them and there will be very little in the cell.

Take that same hive—take the cover off, and raise up the queen excluding zinc, with bees hanging to it—to comb that they have built. I hold that while I put in frames of full sheets; then shake the thing on top of frames; put cover on and it has cured it; I take away the bur comb that they have built.

Mr. Bull—While you are taking your cover off, raising that excluder with those bees on it, you have to smoke them. The other way, you can pick up that hive and set it on to another hive and the bees will not know you have touched them; it can be done in twenty seconds; gives them no chance to get any honey; when I shake a colony, to start with, I see that those combs,

before I start, are in shape to handle rapidly; the idea is to get the bees off the comb as quickly as possible.

President France—There is one thing I would like to inquire: Are these committees ready to make reports—the Committee on Resolutions; and the Committee of Auditing?

REPORT OF AUDITING COMMITTEE.

We, the undersigned Committee, have examined the books and found them correct. Balance on hand, December 18th, 1915, $62.60.

C. F. KANNENBERG,
AARON COPPIN,
J. C. WHEELER,
Committee.

While this committee is busy: We have heard a great deal of talk on foul brood; we have had expressions from some of the members as to what constitutes foul brood, and the different kinds of treatment.

I have had experience in foul brood. I have had it twice and have been successful in my treatment of it. I do not want to give my experience when we have our President here who is well versed in the treatment of foul brood. I would like for you, Mr. President, to tell the members how to treat foul brood, so that, if they have foul brood, they will know how to treat it; and they know, when hearing from you, they are listening to some one who knows what he is talking about.

President France — European or American, or both?

A member—Any kind of foul brood.

President France—You have had the difference between European and American described. Now as for treatment: When we see those pin holes, those sunken cappings, that ropy condition, and we get that peculiar odor, I decide I have American foul brood.

I would say: Find this out as early in the season, in the brood-rearing season as you can. Look for it—but I hope you never find it. But, in case you do, if it is only a few cells, then prepare a clean hive with full sheets of foundation, and if you have an extracting comb that has not much brood in it, put that in the center and place full sheets on either side.

Get your bees as quietly as you can from the infected combs, into a clean hive. And one of the poorest methods is to shake them.

Mr. Baldridge's plan: Reverse that hive for a time; the field bees will go out the next day to work, and, returning, go back to the old stand into a clean hive.

Remove the queen from the infected hive and put her in the clean hive, and you practically have all the bees in a clean hive.

I would say: Let us get all those bees out of the infected hive into a clean hive.

The chances are that any infected bees, or bees from an infected hive, are all into the clean hive. Some of them have carried infected honey; they will deposit a large percentage of it in the dry comb in the center.

If you can, the next day, open that hive and gently remove this one comb, and insert in its place a sheet of foundation, getting the bees from that one comb, you ought to be through with it.

But don't think the old infected hive is going to be where the bees will see it again. We are liable to say: "I would like to save that." Look out—you are standing in your own light. **Hives are not bee tight.**

The principle of treating American foul brood is to take away all the infection. Give them clean quarters; about twenty-four hours afterwards take away any comb they have had for the deposit of some of that.

When it comes to the treatment of this other—European—If it is only here and there an occasional cell of it showing in your colonies that are fairly good and strong:

Take away their queen. Inside of seven to nine days, remove all queen cells; and during this time you have either queens from your very best stock that is not infected, or from out of your own yard, a good queen on the way coming, that you can introduce into that hive.

It is not necessary to remove all of the combs. You will help colonies that are really bad with infection to take out those center combs. I would remove those; I would not ask the bees to be burdened with so much work.

Mr. Wheeler—What about shaking—for European foul brood—is that successful, into empty hives?

President France—No, I think not;

it is wonderfully good if you can afford all that—but if you have retained the queen—though we don't know the why of European foul brood—but if we have kept the queen, in a large percentage of cases we have kept the cause of the trouble.

In one of the counties in our state a man decided he had European foul brood. He had cleaned up American years before.

European broke out and in about two weeks he had over 80 colonies showing it. He had ordered a big surplus of foundation; filled combs with sheets of foundation, shook his bees from infected comb on to sheets of foundation. melted old comb into wax; shipped that off to supply man.

When I got there he had hatching brood on these new drawn out foundations and I found in nearly every one European foul brood again. I said, the cause has not been removed; let's now order new queens and take away the queen, but not the combs. I did not remove anything but the queen. The new queen arrived, I think, about between two and three weeks after we had taken these queens away; cells had been removed that had been started, and these new queens were intruduced, and he has had no trouble since. The queen was largely at fault; he had not removed the queen and he had not removed the cause.

Mr. Stewart—Did you cage those queens in that colony that had foul brood?

President France—No, we killed them. Doctoor Miller has caged the queen from ten days to two weeks and returned her.

President France—I will give you my experience of a few years ago; I went to a convention; I wanted to have explained how can you stop swarming. A man who had quite a lot of bees said: Kill the queens and let them raise new ones. All right, I said, I had some queens I prized and it was with much regret that I pinched their heads. After killing about 200 I swore off. I said I will cage that queen and keep her at home in my own hive and then release her. When released she went on with her work. I did not have swarming. I had 285 swarms the next spring, queenless.

Now let me draw an illustration: You buy of me a choice fresh cow. She is three days on the road in transit with nobody to milk that cow. She will never produce for you what she would if she had remained at home.

A queen laying eggs, then caged—that queen when I went to remove the queen there was a wad of eggs in the cage.

Do you wonder she failed me when the right hour came? I would rather pinch her head than to ever cage her.

President France—We will now listen to the resolutions.

RESOLUTIONS.

Resolved, That the Chicago-Northwestern Bee-Keepers' Association extend their thanks and appreciation to the Great Northern Hotel for their courtesy in extending to this Association the freedom of this Hotel and Room 138 for this convention.

Resolved, That the Secretary of the Chicago-Northwestern Bee-Keepers' Association be instructed to convey to the families of the Dadant's the deepest regret that sickness has prevented their atendance at this convention, and the sincere hope of the members of this Association is that all may very soon be restored to health.

Whereas, The Chicago-Northwestern Bee-Keepers' Association have learned with sorrow of the decease of their brother and co-worker, Mr. H. C. Ahlers, of West Bend, Wisconsin; be it

Resolved, That this Association extend to his bereaved family its deepest sympathy in their hour of sorrow and that a copy of these resolutions be transmitted to his family and also be entered in the records of this meeting.

Resolved, That the Chicago-Northwestern Bee-Keepers' Association present and support the matter of having the food value of honey and its desirability as a table sauce presented to the proper city officers and ask their recommendation for having it placed on the course of instruction in the Domestic Science Department of the public schools.

Resolved, That the Chicago-Northwestern Bee-Keepers' Association present and support the matter of securing a large and separate building for the annual bee and honey exhibits on the State Fair Grounds.

Resolved, That the Chicago-Northwestern Bee-Keepers' Association present and support the matter of having

the food value of honey and its use in cooking and its desirability as a table sauce presented to the proper state authorities, and ask their recommendation for having it placed in the course of instruction in the Domestic Science Department of the public schools.

Resolved, That the members of the Chicago-Northwestern Bee-Keepers' Association express their delight in receiving and acknowledging greeting from Dr. C. C. Miller, and regret that he could not be with us at our meeting. expressing the hope that we may have the pleasure of his presence with us in the future.

JOHN C. BULL,
EDWARD HASSINGER, JR.,
HENRY ROHRS,
Committee.

A member—I move the adoption of these Resolutions.

Motion seconded and carried.

President France—I wish, if it is possible, that suggestions from the different members reach me at my home, while the matter is fresh in your minds—as to what we can individually do to make 1916 Chicago - Northwestern meeting the best ever known.

When you put this up to a committee of one, to look after, I shall immediately take this matter up, early this coming week, with the Michigan people to learn what has made the success of that premium department—that we may consider that. It will not do to wait until the next meeting. If there are to be exhibits you should know in ample time that you may have the whole summer to prepare for it. If we wait until the last hour, some of our choice goods will be gone.

There is another factor: I would like to see borne out, skill and art in the line of designing, either in wax or in honey.

In some of the State Fairs that I have been to, they have had real original designs. They are attractive and they are beautiful, and they attract much attention and comment that is favorable.

Take last year at the Minnesota Fair—a bell of about 18 inches in diameter of beautiful white comb—the centerpiece of dark comb. It was a piece that was very attractive. By its side were designs made of wax that were well worth the premiums that were there awarded.

Do not get the idea somebody else has designed something that we can adopt, make it in wax and bring it as our design; that can be entered in honest competition.

I am only giving out suggestions; it is up to you to make this coming Convention next year possibly better than we have had for years.

I cannot guarantee that I will be here; I will work in earnest up to the time of the meeting; you have a splendid Vice-President. We can individually make this next meeting a success; each of you come and bring some one with you.

Mr. Kildow—This contemplated field meet near Chicago this summer: I would guarantee to have a comb of American foul brood there, if there is one to be got anywhere near, for the benefit of those who have not seen American foul brood; they can have a chance to see the real thing.

Mr. Bull—In regard to that field meeting: If it is possible I would suggest that we do have a hive of American foul brood and also of European if we can get it, or two or three hives of American foul brood—and show what treatment is necessary for that hive, that it may be seen before the eyes of those who do not know it.

Mr. Kildow—It would be a good plan to have this meeting where they have the disease.

Mr. Wheeler—I was contemplating giving you an invitation to my place; I believe I will have to withdraw it.

Mr. Kildow—Wherever we are, if there is no foul brood in that apiary, there had better be brought a frame of each kind. If we go to a place where they have the disease, we might clean it up for them.

A member—Would it be just as well to divide up Cook County into sections? There are hundreds of people who have one or two hives of bees who never would go to a Convention. Can we not have Visiting Committees who will go and talk to bee-keepers and help some one?

President France—I will appoint: Mr. Kildow—Mr. Wheeler—Mr. Bull—Mr. Smith—Mr. Bruner on this Committee, to select a place for the field meet and make necessary arrangements.

They, of themselves, cannot make

this a go; it is only possible by your co-operation with them. Individually consider yourselves a part of this committee.

President France—Just a word, in summing up: What have we gained or learned by our coming here together? Have we learned something or more than one thing that to us has been worth something?

Is this worth our consideration—this fibroid felt mat cut the size of the hive body? It is absorbent—will hold nearly a pail of water. You cannot use it under flat roof, but with telescope cover it will retain heat during the winter in a colony of bees, if out of doors or even in the cellar. In the summer season it will retain the heat above and not heat the colony below. A man who lives near LaCrosse thinks they are worth more in summer weather. So far as the cost is concerned: The manufacturers charge me 7 cents apiece, cut to fit my hives. They are in no supply agency I know of, except the Minnesota Agency has taken it locally for their honey market.

It is made to go in new dwelling houses to go into the wall, as a nonconductor, by which is saved a large percentage of fuel in winter and house cooler in summer. The bees have a little house to live in and it is worth our while.

This painting of comb foundation: It has been explained. If you have never tried it—do so.

How much more do you prize painted foundation than that unpainted?

Mr. Hassinger—At least two and then some.

President France—The painted one is easily worth two.

Let us put some of these things into practical use—into practical trial in our own homes. Is there anything further before I have to leave?

A member—One thing I noticed today: It has been recommended that infected honey be boiled two hours before it is fed back to the bees. I notice you said fifteen minutes.

Mr. Hosman—I think less time will be all right. Have cover left off on boiler it is boiled in; a very short time will settle that for good, and ten or fifteen minutes is just as good as two hours.

President France—I would say, to be on the safe side: Don't ever feed boiled honey to your bees. Better buy sugar and make syrup and dispose of that honey in some other way.

Mr. Kildow—If you boil it you must stand and stir it, even the froth on the side.

President France—I believe Mr. E. S. Miller is your Vice-President; if he will take charge I will have to be making towards my train.

Vice-President Miller—What is your further pleasure?

Mr. Kannenberg—Before our President goes, I wish that this Association would extend their thanks to him for his being with us, and wish him a safe journey home.

Motion made and seconded.

Vice-President Miller—It has been moved and seconded that a vote of thanks be extended to our President, Mr. N. E. France; all in favor say Aye.

Motion was made unanimous.

Vice-President Miller—Anything further before we adjourn?

Any suggestions or questions you wish to bring before the meeting?

Mr. Kannenberg—We have a sample on the table, and I have been asking what this is; can any one tell me what it is?

Vice-President Miller—Can any one explain this device?

A member—I believe I put in a question with reference to bees fertilizing grapes.

Question: How many colonies of bees would be required to fertilize 300 acres of grapes, location Pine Hurst, North Carolina? Would like information of any bee-keepers in that locality.

Mr. Coppin—I don't know whether bees fertilize grapes to any extent or not. My bees are among the grapes. I fail to see them working among the grape bloom unless it is wild grape. The bees will work very rapidly on that; cultivated grapes they don't seem to work the same.

Vice-President Miller—The grapes in my section, it seems, do not require fertilization. Very seldom have I ever seen bees on my grapes.

Mr. Kannenberg—I have a wild grape vine in my bee yard; it never had any grapes yet. Bees do not work on it.

Mr. Coppin—Some of my neighbors have wild grape vines and they complained my bees were on it and that they did not get any fruit because the bees destroyed all blossoms, whilst the tame grapes they did not disturb at all.

Vice-President Miller—I have heard of bees working on grapes. I had a neighbor who claimed my bees, one time, destroyed $200.00 worth of grapes.

Mr. Coppin—The bees will not destroy grapes. The grapes the bees go on, that they were supposed to destroy, were already destroyed before the bees went on. They were ripe and broke or something else. Bees will not puncture the skin of sound grapes.

Vice-President Miller—The jaws of bees are rounded, not sharp like those of some other kinds of insects, like wasps, and they cannot puncture the skin of grapes, but, if this skin is punctured by some other insect, then the bees will suck the juice of grapes.

If there is nothing further, and we wish to close, a motion for adjournment will be in order.

Vice-President Miller—There are one or two questions here.

Question: Will the queen carry American foul brood from the queen raiser's apiary to the purchaser's?

Mr. Kildow—I don't believe she will, unless the candy in that cage has been made from infected honey.

Vice-President Miller—Any one else on this point?

Vice-President Miller—Here is a question:

Question: What disease? Brood dies after being capped—cappings flat, not sunken—only occasionally perforated—larvae come out whole—seems bloated, but there is no ropiness or scale left—about one row or two of cells around brood not affected—nearly all season.

Mr. Kildow—Pickle brood.

Question: In European foul brood location, how many colonies should one care for and keep clean, running for comb honey?

Mr. Bull—I might say that is entirely up to the man who is doing the work.

Vice-President Miller—Some people are competent and able to do very much more than others; it depends upon his knowledge, skill, and ability to get work done.

Vice-President Miller—I had a question I intended to ask Mr. France, but I didn't seem to have a good opportunity.

He stated yesterday, that it was his policy to requeen every year, to raise the best queens.

I think this question was discussed by Doctor Miller through the Bee Journals some time ago: "How are we going to raise the best queens? How are we going to know which is our best stock if we requeen every year? Has any one a solution for that problem?"

It takes two years, sometimes three, for me to find out which my best queens are; I find out that some do better the second year than they do the first, while others do better the first year.

Mr. Bull—The main point of Mr. France's argument was to control swarming. Take that queen away about the 10th or 15th of June; leave the hive queenless, then let them rear a queen, or give them a cell of better stock to prevent swarming.

Vice-President Miller—Where would you get better stock?

Mr. Bull—Would have to test it out to find which was the best stock; the colony that showed up the best work would be the best; test out a few of those for breeding stock.

Vice-President Miller—In my yards I have got to the point where it is pretty hard for me to buy anything better than I have. It has not always proven best, in my case to, to send out and get stock and cross with what I have, because what I have is better than what I have been able to buy, recently. Whether crossing of blood would pay or not, I don't know.

For six or seven years the stock I have bought from queen breeders has not been equal to the stock in my own yard. Probably some of you have had the same experience.

Mr. Hosman—I notice Mr. France said: After the queen has been caged for a while she is no more good. This being the case, we could not expect to get good queens by sending for them.

The only way I can see is to keep track of your colonies and use your best colonies to breed from next fall.

I keep track of every colony so that, after the honey flow is over, I know what each colony has done. By keeping that record—starting my queen rearing the latter part of July—that will give me a chance to breed from my best colonies and have that queen ready to start work the following spring. I would hate to part with some of the queens I have now.

Vice-President Miller—If there is no further business, we can adjourn at any time now.

Mr. Kannenberg—I move that we adjourn.

Motion seconded and carried.

Vice-President Miller—The meeting stands adjourned.

At 4 p. m. the Convention adjourned to meet at the call of the Executive Committee.

ALPHABETICAL LIST OF MEMBERS
FOR 1916
Illinois State Bee-Keepers' Association.

NAME AND ADDRESS.	Number of Colonies, 1915.....	Pounds Comb Honey.	Pounds Extracted Honey.....
Augestine, A. A., R. 1, Dakota, Ill.	....	....	....
Baker, Martin, Williams Bay, Wis.	....	....	....
Baldridge, M. M., St. Charles, Ill.	....	....	....
Balduff, Henry, Beardstown, Ill.	60	1400	....
Barkemeyer, B. D., 450 Marion St. Oak Park, Ill.	....	....	....
Bartsch, F. R., 330 W. 69th St., Chicago.	4	150	....
Baxter, Dr. A. C., 1418 Holmes Ave., Springfield, Ill.	....	....	....
Baxter, Emil J., Nauvoo, Ill.	98	100	7150
Beaver, Wallace R., Lincoln, Ill.	....	....	....
Becker, Charles, Pleasant Plains, Ill.	....	....	....
Bender, C. F., Newman, Ill.	86	5140	....
Bennett, C. S., 1022 Jackson St., Charleston, Ill.	....	....	....
Bercaw, Geo. W., Glendale, Cal.	....	....	....
Bishop, Frank, Virden, Ill.	72	3100	1800
Blubaker, W. H., Freeport, Ill.	....	....	....
Blume, W. B., 6505 Norwood Park Ave., Chicago.	....	....	....
Boss, H. T., Cicero, Ill.	....	....	....
Bowen, J. W., Jacksonville, Ill.	....	....	....
Boyd, C. J., Anna, Ill.	33	100	....
Brelsfoard, W. H., Kenney, Ill.	18	750	....
Brinckerhoff, Dr. J. J., Minooka, Ill.	....	....	....
Brown, Frank, 1749 W. 58th St., Chicago.	....	....	....
Bruner, E. H., 3836 N. 44th Ave., Chicago.	....	....	....
Bryant, E. J., 676 Walnut Ave., Elgin, Ill.	7	....	350
Bull, John C., Hammond, Ind.	150	....	6000
Burnett, R. A., 199 S. Water St., Chicago.	....	....	....
Burrows, Charles, Lincoln, Ill.	....	....	....
Cheeseman, J. A., Pesotum, Ill.	23	2530	....
Clark, Frank, Ridott, Ill.	....	....	....
Claussen, S. S., R. 3, Oregon, Ill.	....	....	....
Coppin, Aaron, Wenona, Ill.	....	....	....
Cunningham, J. C., Streator, Ill.	60	1500	....
Dadant, C. P., Hamilton, Ill.	....	....	....
Daman, C. J., Aurora, Ill.	....	....	....
Desort, Frank, 1308 Ottawa St., Lincoln, Ill.	14	48	400
Diebold, A. J., Seneca, Ill.	42	100	1900
Drake, Robert P., Warren, Ill.	....	....	....
Fairbanks, C. A., Anamosa, Iowa.	....	....	....
Farrington, F. C., Wheaton, Ill.	....	....	....
Finch, C. W., 1451 Ogden Ave., Chicago.	....	....	....

NAME AND ADDRESS.	Number of Colonies, 1915.....	Pounds Comb Honey.....	Pounds Extracted Honey.....
Finger, C. A., Marissa, Ill.....	18	400	500
Fischer, Henry F., Bensenville, Ill.....	26	....	250
Foltz, Adam, Elpaso, Ill.....	55	300	360
Frei, George J., R. 5, Freeport, Ill.....	....	....	....
Fry, Jacob, R. 6, Mechanicsburg, Ill.....	....	....	....
Furgeson, L. R., Harvey, Ill.....	3	50	150
Glasser, William, Dakota, Ill.....	30	500	120
Gray, W. H., Chillicothe, Ill.....	....	....	....
Haan, Frank J., Riverview, Ill.....	34	....	....
Haberman, Mrs. William, Lodi, Wis.....	....	....	....
Haberman, William, Lodi, Wis.....	....	....	....
Hansell, Will, Minooka, Ill.....	14	816	35
Hartman, G., Freeport, Ill.....	35	800	500
Hassinger, Edw., Jr., Greenville, Wis.....	100	....	8000
Hawkins, Kennith, Plainfield, Ill.....	....	....	....
Hays, C. L., 2000 W. 101st St. Place, Chicago.....	....	....	....
Heinzel, A. O., R. 3, Lincoln, Ill.....	....	....	....
Hettel, Mrs. J., Marine, Ill.....	60	700	2000
Horack, Charles, Streator, Ill.....	2	150	150
Horstman, William H., 948 W. 68th St., Chicago.....	18	....	439
Kannenberg, C. F., Oak Park, Ill.....	....	....	....
Kiefer, Edw., 4432 N. Campbell Ave., Chicago.....	....	....	....
Kildow, A. L., Putnam, Ill.....	....	....	....
King, Harry L., R. 10, Springfield, Ill.....	....	....	....
Klein, John, Mendota, Ill.....	8	325	....
Kluck, N. A., McConnell, Ill.....	....	....	....
Kneser, John, R. 19, Hale's Corners, Ill.....	....	....	....
Kuezynski, John F., R. 4, Amboy, Ill.....	40	523	144
Laurie, T. E., Jacksonville, Ill.....	....	....	....
Lee, Arthur, R. 11, Rockford, Ill.....	....	....	....
Lee, H. W., Pecatonica, Ill.....	167	3000	1000
Legat, Sylvester, Spring Valley, Ill.....	....	....	....
Lind, M. H., Bader, Ill.....	125	200	1000
Lyman, W. C., Downers Grove, Ill.....	40	....	....
Mandle, H. W., Palmyra, Ill.....	15	1200	....
Marshall, William, Carpentersville, Ill.....	45	2443	105
McCartney, George, Rockford, Ill.....	....	....	....
Miller, Dr. C. C., Marengo, Ill.....	....	....	....
Miller, E. S., Valparaiso, Ind.....	300	....	10000
Muchleip, H., Apple River, Ill.....	80	5000	2000
Mundell, J. M., Hobart, Ind.....	....	....	....
Mussing, Martin, Oak Park, Ill.....	....	....	....
Ness, L. L., Morris, Ill.....	100	7000	....
Newburn, J. W., Wenona, Ill.....	....	....	....
Norberg, Arthur, Spring Valley, Ill.....	....	....	....
Olson, John, Davis, Ill.....	68	....	4000
Pike, E. C., St. Charles, Ill.....	....	....	....
Poindexter, James, R. 5, Bloomington, Ill.....	40	50	250
Price, Henry, Elizabeth, Ill.....	37	....	3000
Pyles, I. E., Putnam, Ill.....	....	....	....
Rasmussen, Peter, Fairdale, Ill.....	....	....	....

NAME AND ADDRESS.	Number of Colonies, 1915.....	Pounds Comb Honey.	Pounds Extracted Honey.....
Reichert, John, 458 Hendse, Elgin, Ill.....	....	....	....
Reynolds, Alvah, Altona, Ill.....	....	....	....
Richardson, Dr. G. R., Princeton, Ill.....	....	....	....
Robbins, Daniel E., Payson, Ill.....	19	....	1700
Roehrs, H., Hinsdale, Ill.....	....	....	....
Root, A. I., Co., 215 W. Ohio St., Chicago.....	....	....	....
Ross, E. B., Monroe, Wis.....	....	....	....
Russo, Gottlieb, 3029 N. Leavitt St., Chicago.....	....	....	....
Ruth, E. M., R. 3, Freeport, Ill.....	....	....	....
Sauer, George L., Polo, Ill.....	58	650	2850
Schmertman, Lewis, Freeport, Ill.....	34	40	2516
Scripter, Otis, Zion City, Ill.....	6	....	....
Scroggin, A. C., Mt. Pulaski, Ill.....	....	....	....
Seastream, George, Box 142, Pawnee, Ill.....	....	....	....
Seibold, Jacob, Homer, Ill.....	24	700	...
Shaw, F. L., Hutsonville, Ill.....	65	500	500
Simmons, J. R., Harvey, Ill.....	....	....	....
Smith, C. O., 5446 Cornell Ave., Chicago.....	....	....	....
Snell, F. A., Milledgeville, Ill.....	60	100	2200
Soper, Frank, 8043 Muskegon Ave., Chicago.....	....	....	....
Stanley, A. C., 6131 Warren Ave., Chicago.....	....	....	....
Stanley, F. B., R. 8, Springfield, Ill.....	....	....	....
Steinhausen, J. S., R. 37, Downers Grove, Ill.	....	....	....
Stolts, J. P., 306 Walnut St., Aurora, Ill.....	....	....	....
Stone, James A., R. 4, Springfield, Ill.....	....	....	....
Stumm, W. H., R. 3, Edinburg, Ill.....	....	....	....
Sylvester, L., 123 S. Highland Ave., Aurora, Ill.....	....	....	....
Tanner, W. F., 1107 N. Ave., Hubbard Woods, Ill.....	....	....	....
Teutemacher, Herman, Dyer, Ind.....	35	600	200
Turner, W. P., Peoria Heights, Ill.....	....	....	....
Valerius, Charles, Elkville, Ill.....	....	....	....
Van Butsele, Louis, Collinsville, Ill.....	42	450	2300
Vogel, Henry, Galena, Ill.....	70	1000	....
Wachter, Martin, Hinsdale, Ill.....	25	....	....
Wallace, F. N., 130 State House, Indianapolis, Ind....	....	....	....
Werner, Louis, Edwardsville, Ill. (Lost all in flood)..	100	....	....
Wicklein, F. A., Percy, Ill.....	17	....	1400
Wheeler, J. C., Oak Park, Ill.....	....	....	....
Wiegand, Adam, 1575 Claybourne Ave., Chicago.....	....	....	....
Withrow, G. M., Mechanicsburg, Ill.....	....	....	....
Wuretig, C. J. Blue Island, Ill.....	....	....	....
Zimmerman, Henry W., Bethalto, Ill.....	15	750	....

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